National Library
of Canada

Canadian Theses Service

Ottawa, Canada
K1A 0N4

Bibliothèque nationale
du Canada

Services des thèses canadiennes

CANADIAN THESES

NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30. Please read the authorization forms which accompany this thesis.

THIS DISSERTATION
HAS BEEN MICROFILMED
EXACTLY AS RECEIVED

THÈSES CANADIENNES

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30. Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse.

LA THÈSE A ÉTÉ
MICROFILMÉE TELLE QUE
NOUS L'AVONS REÇUE

NL 339 (r. 86/01)

Canada

138

National Library of Canada
Canadian Theses Division
Ottawa, Canada
K1A 0N4

Bibliothèque nationale du Canada
Division des thèses canadiennes

0-315-24874-2

PERMISSION TO MICROFILM — AUTORISATION DE MICROFILMER

- Please print or type — Écrire en lettres moulées ou dactylographier

Full Name of Author — Nom complet de l'auteur
PATRICIA A. DANIELS

Date of Birth — Date de naissance JULY 15, 1950	Country of Birth — Lieu de naissance CANADA

Permanent Address — Résidence fixe
#1418-13104 ELBOW DR. S.W.
CALGARY, ALBERTA T2W 2P2

Title of Thesis — Titre de la thèse
PRESCHOOL INTERVENTION: AN ANALYSIS OF A MULTI-DIMENSIONAL PROCESS APPROACH

University — Université
UNIVERSITY OF ALBERTA

Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée
MASTER OF EDUCATION

Year this degree conferred — Année d'obtention de ce grade 1984	Name of Supervisor — Nom du directeur de thèse DR. G.M. KYSELA

Permission is hereby granted to the NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

L'autorisation est, par la présente, accordée à la BIBLIOTHÈQUE NATIONALE DU CANADA de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans l'autorisation écrite de l'auteur.

Date August 31/84	Signature Patricia A Daniels

NL-91 (4/77)

THE UNIVERSITY OF ALBERTA

PRESCHOOL INTERVENTION: AN ANALYSIS OF A MULTI-DIMENSIONAL PROCESS APPROACH

by

PATRICIA A. DANIELS

©

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA
FALL, 1984

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR Patricia A. Daniels

TITLE OF THESIS Preschool Intervention: An Analysis of a Multi-Dimensional Process Approach

DEGREE FOR WHICH THESIS PRESENTED Master of Education

YEAR THIS DEGREE GRANTED 1984

Permission is hereby granted to THE UNIVERSITY OF ALBERTA LIBRARY to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

(signed) Patricia A. Daniels

PERMANENT ADDRESS:

1418, 13104 Elbow Drive S.W.
CALGARY, Alberta
T2W 2P2

DATED 12 June 1984

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Preschool Intervention : An Analysis of a Multi-Dimensional Process Approach submitted by Patricia A. Daniels in partial fulfillment of the requirements for the degree of Master of Education.

Gordon [illegible]
(Supervisor)
W. H. O. Schmidt
Janis Blakey

Date June 12, 1984

DEDICATION

To

Phyllis Evangeline Denton Daniels

- who has always believed in children

ABSTRACT

This study presented a strategy for intervention for preschool children with complex special needs; integration and adaptation into the least restrictive educational and social environments is the primary goal of the strategy. The study was based on the approach to intervention developed at Preschool Services, Alberta Children's Hospital, Calgary, Alberta, 1975-1981. The strategy was considered a means of operationalizing the optimization perspective of children and their needs; that is, as an alternative to the medical-pathological view.

The conceptual framework of the strategy was an ecological, holistic, and lifespan developmental view of children. The service delivery framework was based on client-centered individualization of content and methods. These frameworks defined a multi-dimensional interactive *process* approach to intervention.

Operationalization of this approach occurred through consistent use of a four-dimensional interactive matrix of variables and a client-centered procedural system as a basis for the development, implementation, and evaluation of individual treatment plans. These elements provided an integrated structure for intervention and defined the basic features of the intervention process. The features were:

analysis of three environments (center, home, and community) in intervention planning, employment of a team approach to child and family, involvement of natural agents of change in natural environments through the triadic model (Tharp & Wetzel, 1969), provision of a continuum of transition steps, individualization in duration and intensity as well as in content, and systematic incorporation of the processes of communication, coordination, and continuity of care.

These features defined an intervention *strategy* within which a range of techniques and structures could be employed. One Preschool Services program, the Resource Classroom Program, was used as an example of implementation of the strategy at the specific level of day-to-day operation. In the RCP, components and structures were developed to meet the specific needs of children who required a *group treatment* environment prior to transition to community educational settings.

The strategy was analyzed in terms of current trends and issues within the field of preschool intervention, specifically, and within human services generally. Its applicability as a framework for intervention was identified as residing in its incorporation of the following trends: (1) provision of non-categorical, individualized intervention which aimed to maximize potentials for future development; (2) systematic programming for generalization of treatment gains; (3) utilization of non-specialist-dependent and non-symptom-specific approaches to change and adaptation; and (4) development of integrated frameworks for service delivery, program development, and research which correspond with the optimization perspective of intervention.

The factors affecting implementation of a multi-dimensional process approach to intervention were identified as being the dynamic variables of: the perspectives, energy, and commitment of the staff members, the levels of understanding of and valuing of the process of optimization by supporting administrative structures and the community, and the strategy's own developmental pattern as it interacted with the client population and the preceding variables. Further study and analysis of the interaction of these variables with the intervention process was suggested as an important step in the development and evaluation of effective intervention strategies.

ACKNOWLEDGEMENTS

This study is essentially about the complexity one finds in life. It is also about, and for, a group of people who refused to allow complexity to be reduced to simplicity. Some of these people were preschoolers who could not talk nor tie their shoelaces; some were adults who could talk in lengthy sentences and tie their shoelaces in several complicated ways. All of them contributed to my growing awareness that life is a process full of potentials which are too dynamic, too multi-faceted, and too colorful to be represented by a single interpretation.

My attempt in this thesis has been to describe the impact which the richness and complexity of life must have on our interactions with those we aim to serve and with our development of means to serve. Similarly, the intervention strategy discussed in this work cannot be viewed in isolation of the impact of the efforts and visions of many individuals: they were the staff, the kids, and the parents with whom I had the good fortune to work from 1975 to 1982, and to whom I wish to express appreciation for all they contributed to what is recorded in these pages.

I wish particularly to thank the Language-Behavior team of 1975-1977 (who were the beginners' minds) and the Resource Classroom team of 1981-1982 (who used the strategy with art, sophistication, and active analysis) for all we learned together and from each other about intervention and many other things in life. I must also specifically acknowledge Dr. C. A. Roberts' role in the evolution of Preschool Services. In addition to his leadership at clinical and program development levels, he was a constant source of creativity, humanistic perception, and energy for all of us. His continuing support of and faith in my own visions and their potentials has been deeply appreciated.

The translation of complexity and change and growth to the pages of a thesis is a complex process in itself. I have been extremely fortunate to have a committee which has provided me with both freedom and guidance. Dr. G. M. Kysela, in his role as supervisor, teacher, and encourager, has continuously provided me with alternative perspectives on intervention and many questions; these have broadened my own perspective and enabled an analysis based on a fuller understanding of the field. As important has been his certainty that when I was able to put my thoughts into words, they would be of value. Dr. W. H. O. Schmidt also played a major role throughout my graduate studies as I explored and discovered the expanse of human development. His participation on my committee has added a dimension of continuity for me and his comments on this study have been especially valuable. I wish also to thank Dr. J. Blakey for agreeing to serve as my external examiner. I appreciate the opportunity to evaluate this study within the context of her area of expertise, elementary education.

Although many people enter the door to begin a graduate program, the journey is unique for each individual. My journey has, indeed, been a rich and complex one. The on-going understanding of family and friends has been an essential part of the process. Their support has taken many forms along the road toward this point of arrival, but the simple knowledge that they are there has been and is most important to me.

> . . . Our whole experience is composed out of our relationships to the rest of things, and of the formation of new relationships constitutive of things to come. The present receives the past and builds the future . . . .
>
> \- A. N. Whitehead (1938)

TABLE OF CONTENTS

Chapter | Page

1. PERSPECTIVES, TRENDS, AND VARIABLES: IMPLICATIONS FOR INTERVENTION IN THE 1980s 1

2. A STRATEGY FOR INTERVENTION 20

The Children 22

The Intervention Goal 23

The Conceptual Framework of the Intervention Strategy 24

The *environment* dimension 27

The *content* dimension 29

The *structure* dimension 33

The *process* dimension 38

The Service Delivery Framework of the Intervention Strategy 40

SUMMARY OF CHAPTER 2 56

3. PRESCHOOL RESOURCE CLASSROOM PROGRAM: IMPLEMENTATION OF A MULTI-DIMENSIONAL PROCESS APPROACH TO INTERVENTION 57

The Children 57

Purpose and General Characteristics of the RCP 58

RCP Intervention Priorities 60

RCP Intervention Objectives 65

Criteria for RCP Admission 66

RCP Structure 69

Chapter Page

The center-based component 69

Parent involvement component 73

The community involvement component . . . 81

Individualized Intervention Programs . . . 86

4. SUMMARY AND CONCLUSIONS 93

REFERENCES CITED 111

LIST OF TABLES

Table | Page

1. OBJECTIVES OF THE STEPS OF THE PROCESS EVALUATION SYSTEM 49

2. EXAMPLE OF A DAILY TIMETABLE FOR THE CENTER-BASED CLASSROOM 71

3. POTENTIAL TYPES OF PARENTAL INVOLVEMENT 75

4. POTENTIAL ROLES OF RESOURCE STAFF IN PARENTAL INVOLVEMENT 80

LIST OF FIGURES

Figure Page

1. Alberta Children's Hospital Administrative Structure (1981) 21

2. Interactive matrix of variable dimensions as a framework for intervention 26

3. Potential members of a child and family treatment team 32

4. Example of a continuum of transitional learning environments 35

5. Process Evaluation System Framework: Stages and Steps of client movement 48

6. Dimensions of Steps 6, 7, and 8 of Process Evaluation System 52

7. Process Evaluation System Framework for treatment team formation and for treatment planning, implementation, and evaluation 88

Chapter 1

PERSPECTIVES, TRENDS, AND VARIABLES: IMPLICATIONS FOR INTERVENTION IN THE 1980s

A synthesis of theoretical paradigms or treatment techniques does not currently exist within the field of human services generally, nor within the field of preschool intervention particularly. There are a number of common, central trends and issues which have guided the design and implementation of intervention models at both levels. Primary among these is a major shift in intervention perspectives and philosophy throughout human services: a changing view of children and their needs is having a significant impact on the basic framework of and context for intervention.

The traditional medical or illness perspective which has been a predominant framework for intervention (Fenichel, 1974) is coming under vigorous attack for a number of reasons. While still a prominent view of abnormal behaviour in many areas, the limits of the deficit-based model, and the basic contradiction between its isolated, specialist-dependent treatment structure and the prevalent themes of de-institutionalization and normalization (Price, 1978) are becoming increasingly recognized. As Schiefelbusch (1978b) has suggested, intervention can no longer be viewed as an isolated event. The resultant trend toward a re-conceptualization of intervention as an integrated, multi-dimensional *process* has gained impetus from a number of sources.

In the broad context, the mental health movement of the 1960s and 1970s promoted acceptance of what can be considered general guiding principles within the field of human services (Korchin, 1976). De-institutionalization, normalization, and prevention themes have led to an explosion of intervention programs (Kendall, 1980) and increasingly to community based "service delivery systems" (Price, 1978). They have also led to the evaluation of therapeutic intervention in terms beyond the single dimension of isolated change within the individuals themselves. As integration into the least restrictive environment becomes the over-riding goal of treatment, so does it become a critical dimension for measurement of effectiveness (Schopler, Reichler, & Lansing, 1980; Vincent, Salisbury, Walter, Brown, Gruenewald, & Powers, 1980). The initial subtle shift in perspective from the medical model of treatment can be detected. In fact, it has been application of the evaluative dimension of generalization over time and across environments which has most strikingly demonstrated the limits of the model.

Continuing within the broad context of human services in general, Tharp and Wetzel (1969) delineated the major limit of the medical model in their classic critique of the helping professions. They identified the discrepancies between the traditionally isolated and highly clinical therapeutic setting and the individual's own natural environments (e.g., home, school, community) as contributing to what they viewed as "the persistent theme in any account of mental health work . . . the failure of treatment techniques in the face of an adverse environment" (p. 7). In other words, treatment gains made in specialized, segregated environments have not necessarily generalized to nor been maintained over time in the individual's natural environments; integration and adaptation, two dimensions of effective intervention, have not occurred with adequate consistency.

A basic tenet of the medical model has been that the causes of the individual's deviance or abnormal behavior reside solely within the individual and, hence, can only be corrected, remediated, or "cured" through a diadic, unidimensional, and isolated relationship with a highly trained specialist. Tharp and Wetzel (1969, p. 7) alternatively identified the individual's naturalistic environments and the relationships therein as primary elements in behavioral disorganization. Speaking from a social learning theory point of view, they similarly identified the individual's environments or ecology as being a primary factor in the generalization of behavioral change, and ultimately in intervention programming and effectiveness. In essence, they suggested that the individual can no longer be seen as solely responsible for their deviant behavior, nor for the generalization of changes (p. 13). Human growth and change occur within a social context.

In proposing their triadic model for intervention, a model which would involve the individual's natural environments and the natural reinforcers therein, Tharp and Wetzel suggested two primary reorientations for human services: (1) that the individual no longer be viewed and treated in isolation of his or her ecology; and (2) that the natural environment be recognized as the potentially more powerful agent or change over the long term. In their critique of the illness model, they suggested the following orientation:

> The mental illness model has failed to provide a technology for cure which is sufficiently reliable. More seriously, it has failed to provide a useful action model for the helping enterprise as most broadly conceived--the enterprise of education and rehabilitation. . . . The model's inadequacy resides in its limited applicability. . . . It is widely recognized that if the full potential of society is to be mobilized for the help of its less fortunate members, then the helping professions must be despecialized. The hyperprofessionalization of the mental health professions militates against the use of society's greatest resources: the client's natural relationships, with their extraordinary potential power for generating behaviour change. (Tharp & Wetzel, 1969, pp. 1-2)

In their call for an organizational model which can avail itself of the full helping potential of the individual's social environment, Tharp and Wetzel (1969, p. 2) presented a model for an approach to treatment reflective of the trend toward a multi-dimensional process view of intervention. Their *triadic model* of specialist → mediator → client extended the scope of intervention to include natural agents of change; that is, the model included those people who have and will continue to have primary relationships with the client in his or her natural environment.

Two critical features of the model were indicative of a shift in perspective. The first was the inclusion of the individual's natural relationships in the intervention program and the consequent incorporation of what had previously been considered as "post-treatment" environments into the actual intervention process. By adding these dimensions to the structure of the intervention, the model provided a means for facilitating generalization and, hence, adaptation and integration.

The second critical feature of the model was the implicit changed view of the client. Individuals were not seen as being the passive recipients of expert care but as members of a social matrix in which they act and are acted upon. Both of these features represented a significant shift away from the traditional conceptualization of treatment as an isolated event.

The impetus for a re-conceptualization of intervention which would incorporate a broader social systems approach, such as that represented by the work of Tharp and Wetzel, gained increasing momentum throughout the 1970s.

Within the more specific context of the client population of preschool children with special needs, an early example of this was seen in the intensive work of Lovaas (1973) with autistic children. In recognition of the correlation of treatment gains and the nature of the post-treatment environment, a major component of the child's treatment program became involvement of the child's parents by training them as natural reinforcers of programming goals in the child's home environment. As well, the triadic model proposed by Tharp and Wetzel gained acceptance as parents were increasingly perceived as potential agents of change as well as trained reinforcers of discrete behaviours (Bricker & Casuso, 1979; Heifetz, 1977; Lovaas, 1978; Schopler, 1978). Bronfenbrenner (1974) further supported the de-specialization of treatment techniques and the involvement of parents in the therapeutic process by stating "the family is the most effective and economical system for fostering and sustaining the development of the child" (p. 17).

Incorporation of a social systems approach within intervention structure gained added acceptance as researchers such as Hart and Rogers-Warren (1978) and Vincent et al. (1980) concluded that generalization of treatment gains was too frequently not incorporated into intervention plans in a systematic, concurrent manner. In the search for methodologies and technologies whereby generalization could be facilitated, hypotheses about the nature of generalization began to emerge. From a socio-ecological perspective of language intervention, Guess, Keogh, and Sailor (1978) outlined four assumptions which may be made about generalization of language usage (extensions into general terms are shown in brackets):

> 1. Generalization to the natural environment is a function of the child's complement of language [or, of his or her acquired skills];
> 2. Generalization is a function of environmental opportunities for verbal expression [or, for utilization of acquired skills];
> 3. Generalization is a function of both natural and programmed contingencies in the environment;
> 4. Generalization is a function of the degree of similarity between the training environment and the generalization setting. (p. 393)

These assumptions lead to a view of generalization as an interactive process depending on the existing processes and expectations of the natural environments as well as on the developing skills of the child. Given that generalization of developmental change into other environments (school and community as well as home) and over time is a primary goal of intervention and a primary measurement for intervention effectiveness, the role of the interventionist and the intervention program thus becomes one which must extend beyond the training of predetermined skills in isolation by a specialist. Systematic programming for generalization required broader approaches and models which incorporate the following variables: the development of ecologically valid, functional, and supportable skills for the child, consideration of the child's specific environment and the interactive factors therein, and provision for continuity between the training environments and the natural environments. It is attention to and incorporation of these variables in the design and implementation of preschool intervention programs which respond to Tharp and Wetzel's recommended reorientations within human services and which highlight the need for a re-conceptualization of intervention as a multi-dimensional process.

Additional impetus for this viewpoint was gained through early studies of preschool intervention effectiveness such as that conducted by Bronfenbrenner (1974). His analysis of a variety of Headstart-based program structures prompted him to call for a major change in intervention *perspective*. In the following passage he provided specific direction for a re-conceptualization of preschool intervention--a direction away from a uni-dimensional, diadic, and symptom-specific approach to children and their needs:

> [the results] imply a major re-orientation in the design of intervention programs and in the training of personnel to work in that area. In the past, such programs were primarily child-centered, age-segregated, time-bound, selfcentered, and focussed on the trained professional as the powerful and direct agent of intervention with the child. The results of this analysis point to approaches that are family-centered rather than child-centered, that cut across contexts rather than being confined to a single setting, that have continuity through time, and that utilize as primary agents of socialization the child's own parents, other family

> members, adults and other children from the neighbourhood in which he lives, school personnel, and other persons who are a part of the child's enduring environment. (Bronfenbrenner, 1974, p. 44)

The critical feature of Bronfenbrenner's suggested orientation was the ecological perspective or framework which formed the context for his specific recommendations. This framework can be seen as reflective of the broad trend toward a multi-dimensional process view of intervention.

In the search for a framework which would incorporate facilitation of treatment gains into natural environments and over time (i.e., a broader social systems approach to generalization), many researchers, theoreticians, and practitioners have adopted the ecological perspective. As Hemsley, Howlin, Berger, Hersov, Holbrook, Rutter, and Yule (1978) chronicled, the emphasis in the late 1970s in preschool intervention became the training of parents and other non-professionals, the utilization of home versus clinic as a training environment, the broadening of treatment aims, and the development of techniques to include more natural reinforcers already articulated in the child's environments. The shift in perspective was evident in the major changes in intervention *structure* as reflected in the acceptance of multiple agents of change and multiple environments for change (the intervention approaches of McLean and Snyder-McLean [1978] and MacDonald [1980] provide examples of this). One of the primary challenges presented to interventionists had its beginnings in this trend toward viewing intervention within this open system ecological approach.

Unlike the closed or steady-state framework of the traditional models, the movement toward the ecological perspective carries with it the responsibility to incorporate the main features of ecology into the intervention framework and structure. Korchin (1976) has identified four primary features to be emphasized within an ecological perspective:

> (1) *adaptation*, the capacity of organisms to cope, survive, and grow within their environments; (2) the *interdependence* of living and non-living elements which together define an ecosystem; (3) *system change* over time, . . . as the system moves from one to another mode of organization; (4) a methodological emphasis on the *naturalistic study* of biological (and, in our case, psychological and social) phenomena rather than on laboratory research. (p. 545)

The inclusion of these multi-faceted and multi-levelled variables into an intervention approach not only adds dimensions to intervention in terms of increased numbers of potential agents of change and potential locations of change, but also adds the dynamic dimension of variable and *interdependent* growth and change within a child's unique ecosystem over time. A critical variable in the determination of treatment goals and the evaluation of treatment effectiveness becomes the recognition that change in one aspect of a child's socio-ecology may affect other processes within that developmental context in a positive or negative way (Enzer, Abid, & Benaderet, 1978; Gray & Wandersman, 1980; Willems, 1974). The challenge presented to interventionists who accept the open system ecological perspective as a framework for treatment is to design and implement intervention programs which account for and are responsive to the active and reactive variables within the child's socio-ecology as well as to the child's unique developmental process. The impact of this perspective and its marked contrast to the isolated event perspective of the uni-dimensional medical model has been well illustrated by practitioners such as Hemsley et al. (1978) and Thomas and Marshall (1977), who observed that a child's program may need to be modified to accommodate to familial needs or circumstances.

Further support for a view of intervention as an interactive process affecting and affected by the child's unique socio-ecology and developmental pattern may be found in Gray and Wandersman's (1980) discussion of evaluation of home-based intervention programs:

> At the very least, one should be aware of the potential impact of the intervention on the family's social systems and attempt to document changes in social environment related to intervention. . . . we need to measure what the program actually does and how the participants respond, how the characteristics of the families interact with the program, and how the program affects parent-child interaction, parent competencies, and child competencies. . . . Evaluation of program effectiveness has . . . obscured the understanding of the process of development and of individual differences in the pattern of development. Such an approach ignores

> the real possibility that the intervention has had different kinds of impact on different kinds of families. (p. 1005)

Implicit in this perspective is the trend toward attention to the dynamic complexities of human behavior and development and the challenge to create intervention programs which are as individual, complex, and interactive as the client population they serve. Reflecting the shift away from preset, symptom-specific, packaged treatment procedures and content, Vincent et al. (1980) proposed that "the teaching of isolated developmental milestones may not make the child non-handicapped" (p. 306). Zigler and Seitz (1980), in recognizing the variable of heterogeneity, stated "no single program or treatment is necessarily the best solution for all individuals with the same problem" (p. 364). McLean and Snyder-McLean (1978) and Kendall (1980) shared the observation that too frequently intervention programs have not made provision for individual needs and differences in developmental change. Finally, Thomas and Marshall (1977) and Schopler et al. (1980) suggested that the shift toward individualized intervention requires a shift in focus from the development of symptom-specific prescriptions and techniques toward the art of service delivery: "the art of using . . .available knowledge to meet the needs of a particular child" (Schopler et al., 1980, p. viii). Thomas and Marshall provided further illustration of a shift in focus by identifying five variables or component factors of programming which they saw as interacting and affecting a child's progress and adaptation to intervention: "(a) the handicapping condition, (b) the family, (c) medical services, (d) training and educational services, (e) the community as it relates singly to the individual and the individual to the community" (1977, p. 17).

At a specific level, these themes represent current issues in program structure, content, and evaluation. However, they may also be seen as representative of the need for a re-conceptualization of intervention in a manner which will provide a framework or philosophical orientation within which these and other issues may be resolved. The emergence of a philosophical perspective of the child and his or her needs, which would provide guidelines for intervention programs responsive to the identified trends and variables, can be detected in the holistic and life-span perspective of children inherent within the ecological framework.

In addition to providing a structure for the relationship between generalization and the interactive nature of development within a child's unique socio-ecology, the process level of the ecological framework leads to consideration of the child's overall development over time.

To return to the integration and adaptation dimension of program effectiveness identified previously, one of the major trends within intervention design is attention to the dynamic between the individual's unique patterns of change and growth and the expectations of the common world, present and future (Graham, 1976; White, 1980). Generalization remains a key issue but the focus becomes generalization for the purpose of adaptation to natural environments *so that further* development and learning in those less restrictive social and/or educational environments is facilitated (MacDonald, 1980; Sanders, 1976; Zigler & Seitz, 1980; Zigler & Trickett, 1978).

Maximization of human potential is assumed to occur in the least restrictive, natural environment as opposed to segregated clinical environments. As participation in these environments becomes a goal of intervention, so must identification of and adaptation to the processes occurring within them become part of the intervention process (Hart & Rogers-Warren, 1978; Vincent et al., 1980). The interaction matrix is, in fact, extended to include the relationships between developmental processes within the child and his or her ecological context, and the relationship between development in the present and in the future. The context for intervention moves from a corrective orientation in which children and their needs are viewed in terms of their specific disability in development to a perspective in which children and their needs are viewed in terms of their general ability to develop.

The wide-ranging and multi-leveled effects from the adaptation of this ecological perspective of the child and the consequent complex and dynamic view of treatment aims as being embedded in the context of the child's unique development process were exemplified in Schiefelbusch's (1978a) presentation of the "most up to date view of language intervention":

> it should contribute to the full *lifespan* of the individual . . . its effects should *generalize* and extend across the full ecological scope of the individual's environment . . . it should program fully for *normal* language forms and functions . . . it should serve to *transact* the individual's immediate needs, wishes, and intents. This considerable range of intervention purposes is both logical and pragmatic. . . . Many aspects cannot be programmed from an a priori set of determinants, even though preplanning is important. Language intervention is an *individualizing process.* (p. 8)

The full impact of the purpose of intervention as being an individualizing process has been underscored in Schiefelbusch's (1978a) identification of three quite different classes or approaches to intervention. In his analysis, the "*corrective*" approach focuses on the change or modification of a specific "problematic or disturbed behavior." The symptom-specific view of the purpose of intervention inherited from the medical model is apparent. The second approach, the "*preventive*," has as its purpose "to control or hinder the development of problem behavior or to promote behavioral characteristics that facilitate the modification of disorders that would possibly develop in later years." The importance of generalization of treatment gains over time is evident, but a specific disability perspective of children's needs remains. The third approach Schiefelbusch termed "*optimizing*." This approach incorporates the trends toward an ecological, holistic, and lifespan developmental view of children and their needs, and the view of intervention as an individualizing process. As well, it is indicative of a re-conceptualization of intervention at the basic level of intervention philosophy.

> [optimizing intervention is] aimed at the establishment of external conditions and/or interval prerequisites that allow for the optimal insofar as such goals can be formulated or fulfilled. If one agrees that psychological well-being is more than being free from disorders, this type of intervention becomes extremely important. Optimizing intervention implies establishment of goals for optimal human development. (1978a, p. 9)

This definition of intervention's purpose as optimization of human development through an individualizing process characterizes a philosophic orientation in which intervention is viewed as a non-categorical service *for* a client population which facilitates and enables *already existing and active processes* and potentials for growth and change (Mittler, 1971). Intervention is not simply viewed as an externally based treatment *done on* a passive and fragmented part of the client which requires "fixing" *before* development can proceed. Intervention aims to enhance the unique processes of development; it does not simply aim to "cure" abnormal behaviour in isolation of human development. The framework for intervention becomes a dynamic, flexible, and multi-dimensional process which aims to maximize the potentials and opportunities for human development.

This perspective of intervention at once shows the full scope of the challenge facing interventionists who accept this aim, and provides direction for the establishment of guidelines by which to incorporate the trends and variables which have been discussed. As Gray and Wandersman (1980) suggested, the goals of an intervention program may be thought of as hypotheses about the factors which facilitate development. For the population of preschool children with special needs, maximization of development and potential for development are, at this point in human services theory, believed to occur in the least restrictive social and educational environments. A primary goal of preschool intervention programs aimed at optimization may therefore be broadly stated as integration and adaptation within natural environments. The research and experience of the past decade have provided further guidelines for achieving this goal through identification of a critical framework for the processes of integration and adaptation. This framework is the individualizing process which begins with the holistic, ecological, and lifespan developmental perspective of the child. The challenge to optimize human development may now be stated in more concrete and manageable terms.

The challenge is to design, implement, and evaluate intervention programs within which integration and adaptation are systematically programmed for, but which also have the flexibility to respond to individual patterns of development. The task is not to develop additional specific models and training/treatment curricula per se. Rather, the task is to design *intervention strategies* within which various techniques may be used to meet needs of children with a wide range of handicapping conditions, functioning levels, and patterns of development in an overall framework which aims at the level of integration and adaptation appropriate for the child (McLean & Snyder-McLean, 1978; Ruder, 1978). Non-categorical intervention responds to a continuum of intensity of needs; it attempts to optimize development to meet the expectations of naturalistic environments and it also attempts to prevent fragmentation of development by focusing on continuity of care for the whole child. Consequently, it requires a *strategy* which at administrative, clinical, and research levels incorporates the complex, multi-dimensional, and interactive variables inherent within each child's unique developmental process and socio-ecology as well as the equally complex and dynamic variables and processes within future, natural environments.

This study presents an intervention strategy which evolved in response to the needs of preschool children with handicapping conditions and their families. Integration into the least restrictive social (home vs. institution), educational, and community environments has consistently been the primary goal, and individualization of programming from a holistic, ecological, and lifespan developmental perspective the primary means for approaching this goal.

Chapter 2

A STRATEGY FOR INTERVENTION

The intervention strategy presented in this study was developed and utilized in Preschool Services, Alberta Children's Hospital Child Health Centre, Calgary, Alberta, from 1975 to 1981. Preschool Services was composed of three day-treatment intervention programs for preschool children (aged 2 years to 6 years) with special needs and their families. Figure 1 provides an overview of the administrative structure of the Child Health Centre and the location of Preschool Services within the system.

Preschool Services evolved in response to unique needs within the population of preschool children with minimal to severe handicapping conditions as well as in response to needs within the community served by the Child Health Centre. The three intervention programs--the Preschool Language Behavior Program, the Preschool Multi-Handicapped Program, and the Preschool Resource Classroom Program--had individual, distinguishing characteristics, but each operated within the guidelines of a general intervention strategy which provided a framework for assessment, treatment, and evaluation from the optimizing perspective discussed in Chapter 1. This strategy was based on a view

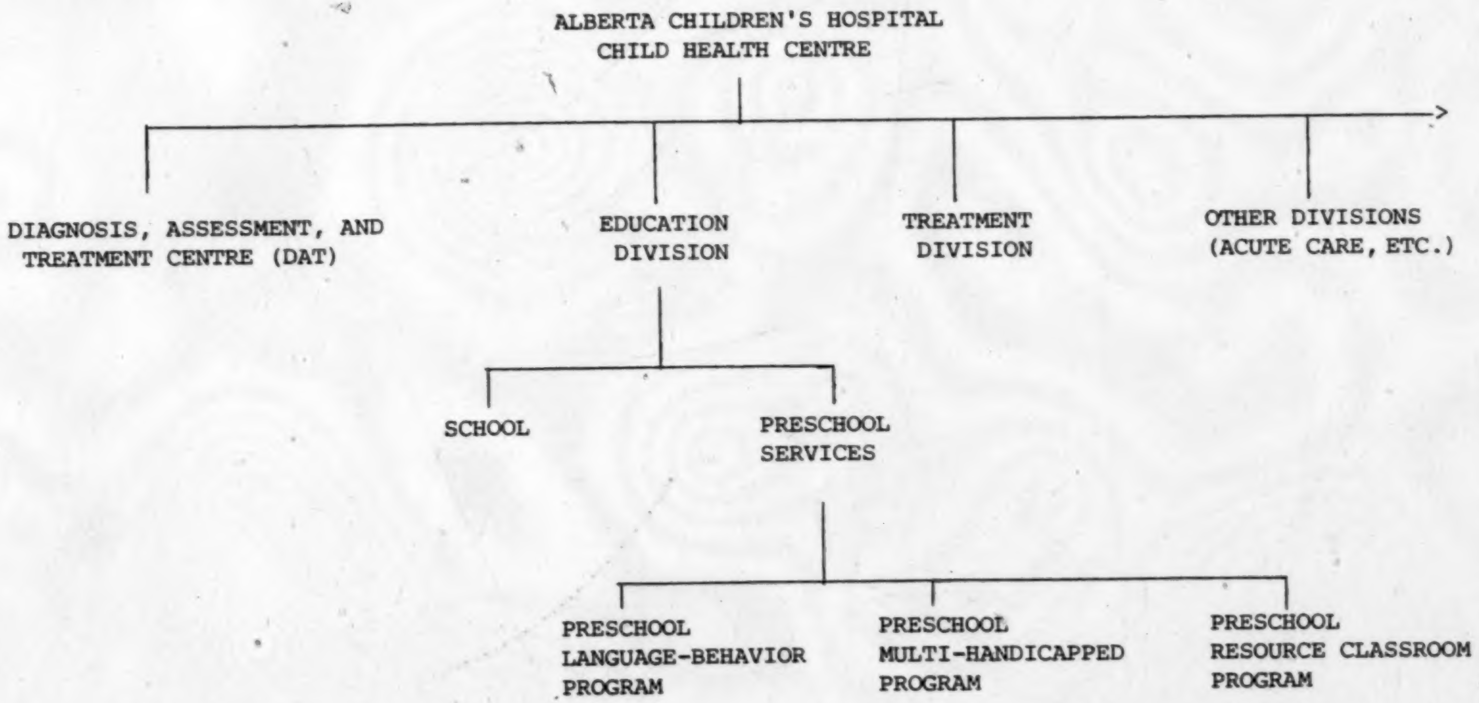

ALBERTA CHILDREN'S HOSPITAL
CHILD HEALTH CENTRE
DIAGNOSIS, ASSESSMENT, AND TREATMENT CENTRE (DAT)
EDUCATION DIVISION
TREATMENT DIVISION
OTHER DIVISIONS (ACUTE CARE, ETC.)
SCHOOL
PRESCHOOL SERVICES
PRESCHOOL LANGUAGE-BEHAVIOR PROGRAM
PRESCHOOL MULTI-HANDICAPPED PROGRAM
PRESCHOOL RESOURCE CLASSROOM PROGRAM

Figure 1. Alberta Children's Hospital administrative structure (1981).

of intervention as a multi-dimensional interactive *process*. Two key components of the intervention strategy are discussed in this chapter: (1) the definition of a multi-dimensional interactive matrix of variables which reflected the intervention philosophy of Preschool Services and that provided a structure for an ecological, holistic, and lifespan developmental view of the child from which individual treatment programs were derived; and (2) the Process Evaluation System, a framework for service delivery developed to incorporate communication, continuity of care, coordination of services, and program evaluation and development within the intervention process.

The Children

Preschool Services was originally established to meet the needs of a sub-group of preschool children whose opportunities for inclusion in preschool programs were either severely limited or did not provide optimal programming to meet their developmental needs. The identification of this client population occurred primarily through the Diagnostic, Assessment, and Treatment Centre of the Alberta Children's Hospital. The diagnostic categories included: identified genetic syndromes, physically handicapping conditions (vision and hearing impairments, as well as at-risk health conditions and motor disabilities), minimal to severe brain damage, aphasia, autism, and varying degrees of emotional disturbance, hyperactivity, and developmental delay.

In the majority of cases, no single diagnostic category accounted for the complexity of factors, identified or unidentified, which were interfering with the child's development and learning. The prognosis for these children was typically guarded and pessimistic, particularly in terms of their potential to function and to develop within natural environments (home, school, and community). The needs of these children and their families, which included identification of as well as facilitation of developmental potential, were not seen as being able to be fully met through existing community resources and programs, nor through isolated individual therapy.

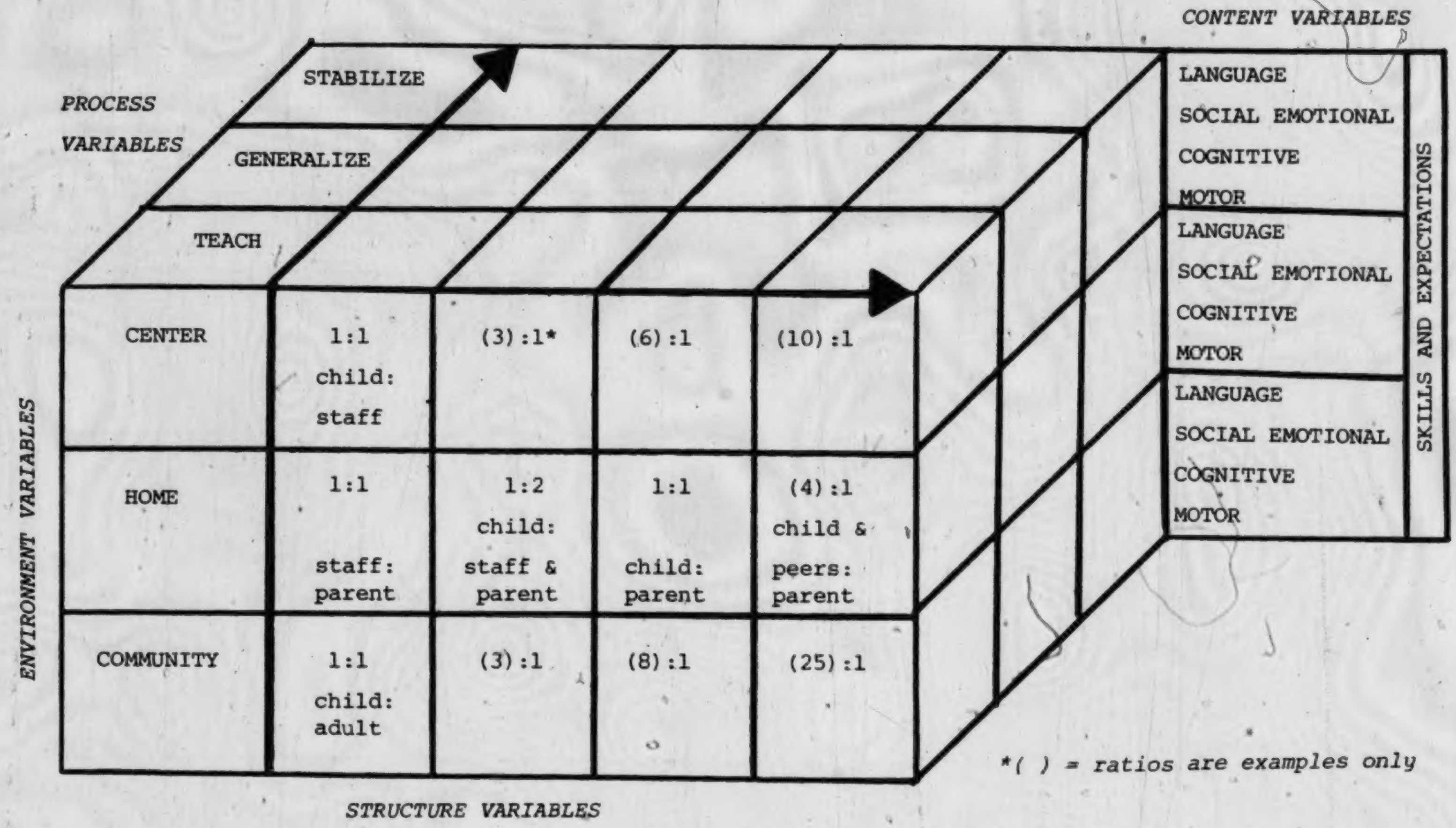
The Intervention Goal

Reflecting the general themes of de-institutionalization and normalization within human services and the major shift from a medical-pathological view of the atypically developing child toward an optimizing view, the Preschool Services approach to this client population was based on a primary goal: provision of in-depth assessment and intensive, individualized, and comprehensive programming to promote maximization of developmental potential through identification of the most appropriate and least restrictive natural environments for the child and through facilitation of adaptation to and integration within these environments. The intervention strategy which evolved in response to this goal may be characterized as a dynamic, interactive systems approach based on a holistic, ecological, and lifespan developmental perspective of the child and a correlative multi-dimensional process view of intervention.

The Conceptual Framework of the Intervention Strategy

In order to provide individualized programming which promoted the child's development in a manner that facilitated integration and adaptation in natural environments, two primary dynamic factors were seen to be critical elements of effective intervention. The first was the child's unique developmental process and profile, including the developmental contexts or socio-ecology. The implicit, holistic, and ecological perspective of the child within this factor is in contrast with the symptom-specific and deficit-based view of the traditional intervention approaches. The second factor is best expressed as the expectations of natural environments in the present and in the future. These expectations were viewed not simply as entrance criteria for integration but, rather, as a reflection of the skills and strategies required to adapt to and to continue developmental progress within the processes occurring in home, school, and community environments. The inclusion of this factor is indicative of a lifespan developmental process view of the child which is in contrast with the isolated event perspective of traditional clinical therapy. Further reflecting the optimizing perspective and philosophy of Preschool Services, the basis for intervention was seen to be the *relationships* within and between these two factors. Again, a contrast may be made with the uni-dimensional corrective basis for intervention.

At a more specific level, four general categories of variables were identified as primary dimensions of the dynamic interaction of factors and were seen to be the primary dimensions to be incorporated in the intervention process. These variable categories (described more fully below) were seen to be: (1) *environment*--the child's socio-ecology present and future; (2) *content*--the child's developmental profile as it formed the specific treatment goals for his or her program; (3) *structure*--the relationship between the expectations of the natural environment(s) and the optimal learning environment for the child; (4) *process*--the relationship between the child's developmental progress and potential, and adaptation within less restrictive natural environments. As represented by Figure 2, the integration of these dimensions into an interactive matrix provided a conceptual structure or strategy for the design, implementation, and evaluation of individual intervention


CONTENT VARIABLES
PROCESS VARIABLES
STABILIZE
GENERALIZE
TEACH
ENVIRONMENT VARIABLES
CENTER
HOME
COMMUNITY
STRUCTURE VARIABLES
1:1 child: staff
(3):1*
(6):1
(10):1
1:1 staff: parent
1:2 child: staff & parent
1:1 child: parent
(4):1 child & peers: parent
1:1 child: adult
(3):1
(8):1
(25):1
LANGUAGE
SOCIAL EMOTIONAL
COGNITIVE
MOTOR
LANGUAGE
SOCIAL EMOTIONAL
COGNITIVE
MOTOR
LANGUAGE
SOCIAL EMOTIONAL
COGNITIVE
MOTOR
SKILLS AND EXPECTATIONS

*( ) = ratios are examples only

Figure 2. Interactive matrix of variable dimensions as a framework for intervention.

programs. As will be described at a general level through discussion of each dimension of this matrix, this conceptual strategy not only permitted systematic programming for integration and adaptation but it also had the inherent flexibility to respond to individual patterns of development.

1. The *environment* dimension. The environment dimension made provision for the ecological variables interacting with the child's developmental pattern in the present and the potential variables of future environments. Reflecting the trends within the field of preschool intervention toward a broader, social systems approach to enable integration and adaptation (Tharp & Wetzel, 1969) and toward an ecological framework for the facilitation of generalization (Bronfenbrenner, 1974b; Guess, Keogh, & Sailor, 1978; Schiefelbusch, 1978a), the child's primary developmental contexts and the primary social relationships therein were viewed as containing key variables to be incorporated within the intervention process.

Two operational features of the Preschool Services' intervention strategy evolved from inclusion of this dimension. The first was the provision of service in three primary developmental contexts. As shown in Figure 2, these were: the half-day treatment program provided at the Preschool Services center, home and family environment(s), and community environments (primarily concurrent and future preschool or educational placements). The extent and duration of involvement in these contexts was essentially defined by the needs of the child and family. Within Preschool Services, the center-based program was termed the "on-site" program. Intervention in the home or community was viewed as an "outreach" component of the service delivery system and was termed the "off-site" program. Off-site intervention could occur for a child or family prior to their involvement in a center-based or on-site program (i.e., pre-on-site intervention), concurrent with their on-site program, or as a follow-up to their on-site program (i.e., post-on-site intervention).

The second operational feature evolving from the inclusion of the environment dimension was the utilization of the triadic model (Tharp & Wetzel, 1969) as a primary technique to facilitate adaptation and on-going development in more naturalistic environments. While at many points in the intervention process the diadic model of staff member → child was necessary, the transition to the triadic model of staff member → mediator → child was viewed as a primary means to enable integration and generalization. Parents and community placement personnel were identified as primary mediators naturally articulated in the child's ecology. Preschool Services staff therefore provided consultation to these mediators where possible rather than direct service to the child alone.

2. The *content* dimension. The content dimension similarly reflected a holistic and life-span perspective of the child. In determining the program content, or treatment objectives, the child's individual levels of functioning in the three primary environments were viewed as the primary set of variables. Regardless of the child's presenting handicapping condition or diagnosis, all areas of development were included under the broad headings of language, fine and gross motor, social-emotional, and cognitive development. The second group of variables within this dimension was the levels at which these skills were expected to be functional for the child in order for on-going successful integration and adaptation to occur in natural environments (Graham, 1976; McLean & Snyder-McLean, 1978; Vincent et al., 1980; White, 1980). (See Figure 2 for illustration of the content dimension within the intervention matrix.)

The inclusion of the first group of variables within this dimension, that is, attention to current levels of performance in all areas of development, provided a holistic and non-categorical basis for intervention. Individualization of program content occurred through derivation and prioritization of treatment objectives across the child's development and/or developmental contexts. For example, while the child with hemiplegia would require fine and gross motor treatment in all three environments, the child's development of language, peer interaction, and reasoning skills would also be included as primary treatment objectives.

The inclusion of the expectations of future environments as a second level of variables to be considered in the formation of program content attended to the lifespan development of the child and, more specifically, to the general goal of integration. As a consequence, the emphasis of treatment objectives might vary from environment to environment for the child. For example, the ability to attend to and follow instructions given in a group setting is a goal based on community expectations which would not necessarily form a part of the content for home programming. At the same time, however, if the child demonstrated a high degree of dependence on adult attention in all three environments, the goal of independence would be reflected in the program content for all environments.

The primary operational feature of Preschool Services which resulted from the inclusion of the dimension of content variables was the utilization of a team approach to the child and family. Treatment teams and their methods of operation (i.e., team model) varied from client to client, depending on the identified needs and priorities. Disciplines available to serve on a treatment team included child care, education, nursing, occupational therapy, physiotherapy, psychology, social work, and speech pathology. The type and intensity of involvement of these disciplines was dependent on the content of the intervention goals for the child and family. For example, a child with average fine and gross motor development would not require the direct treatment of a physiotherapist or an occupational therapist. These staff members would not, therefore, be on the child's individual treatment team. However, they might provide consultative service to a staff member running a fine or gross motor group in which the child was participating (this utilization of the triadic model among treatment staff facilitated holistic and optimizing intervention for all children and families).

As represented in Figure 3, the child and family's treatment team could also incorporate professionals who would be involved with the client on a continuing basis. For example, information-sharing and regular communication with a community physician who had placed a child on a restricted diet, or with the day-care personnel who were integrating the child into their program, was viewed as an important aspect of the team process of developing intervention goals and strategies. The flexibility of this child-centered basis for team formation and for the determination of treatment content permitted contribution from a number of perspectives (including the parental perspective)

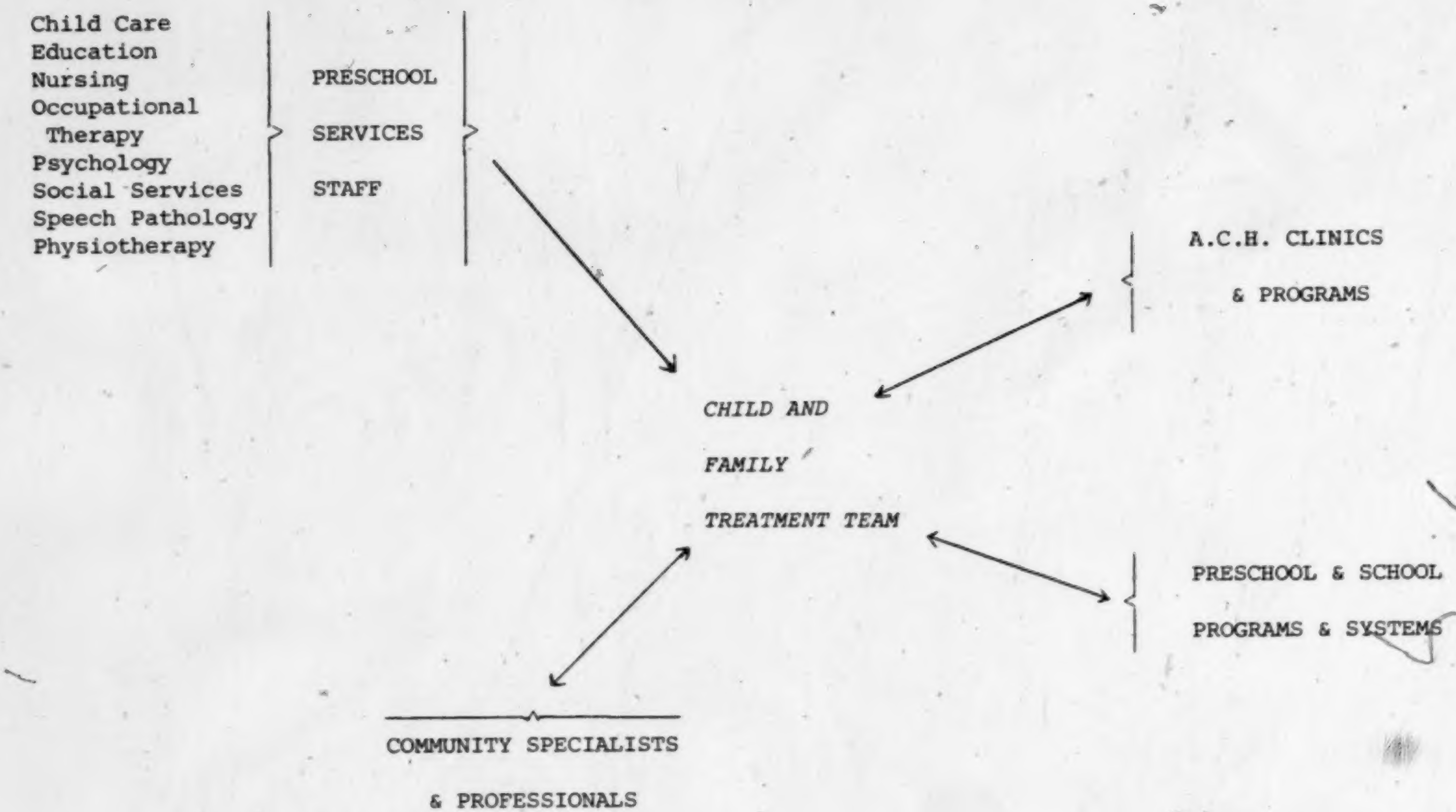

Child Care
Education
Nursing
Occupational Therapy
Psychology
Social Services
Speech Pathology
Physiotherapy
PRESCHOOL
SERVICES
STAFF
CHILD AND
FAMILY
TREATMENT TEAM
A.C.H. CLINICS
& PROGRAMS
PRESCHOOL & SCHOOL
PROGRAMS & SYSTEMS
COMMUNITY SPECIALISTS
& PROFESSIONALS

Figure 3. Potential members of a child and family treatment team.

with the aim being to attend to the development of the whole child rather than fragmentation of the child into specific areas of development to be treated separately.

3. The *structure* dimension. The structure dimension shared the characteristic of being based on a child's functioning level upon entry into the intervention process yet aimed to facilitate the transition into more natural and less restrictive environments. Incorporated within this dimension was a continuum of learning environments and structures. In recognition of the discrepancies between the treatment environment and natural environments, for both the child and the family, and the importance of generalization from one to the other, this dimension provided for a graduated series of transition steps within the intervention process for child and family (Bricker & Casuso, 1979; Guess et al., 1979; Hart & Rogers-Warren, 1978).

Variables interacting within this continuum were seen to include the following: the extent of structure and individual attention required to initiate developmental change and learning, the generalization of these newly acquired skills into less structured, more naturalistic environments, and the levels of independence required in more naturalistic environments for the processes of learning and development to proceed. As shown in the Figure 2 schematic, intervention in each of the three environments or developmental contexts was structurally arranged to provide a series of transition steps. It should be noted that the figure is not representative of the program structure for each child; not all children and families required the range of learning environments illustrated. Similarly, movement along the continuum in one environment was not necessarily dependent upon parallel movement in the other two.

In the Preschool Services center, the potential learning environments for the child were seen to range from a 1:1 structure of individual therapy to a 10:1 structure of a mid-sized, group-learning activity. Within this continuum, a series of transition steps was provided not only in terms of the size of the group but also in terms of the potential combination of learning environments. Figure 4 illustrates the transitional steps a child with primary behavioral problem and secondary developmental delays might progress through while attending the on-site program. Initially, the child would require a high degree of individual attention to develop appropriate behaviors and skills for participation in a group situation. Transition to small, highly structured groups for part of the half-day would be the first step, with generalization eventually to appropriate participation and learning in a large-group situation being the final step.

In addition to monitoring the child's ability to

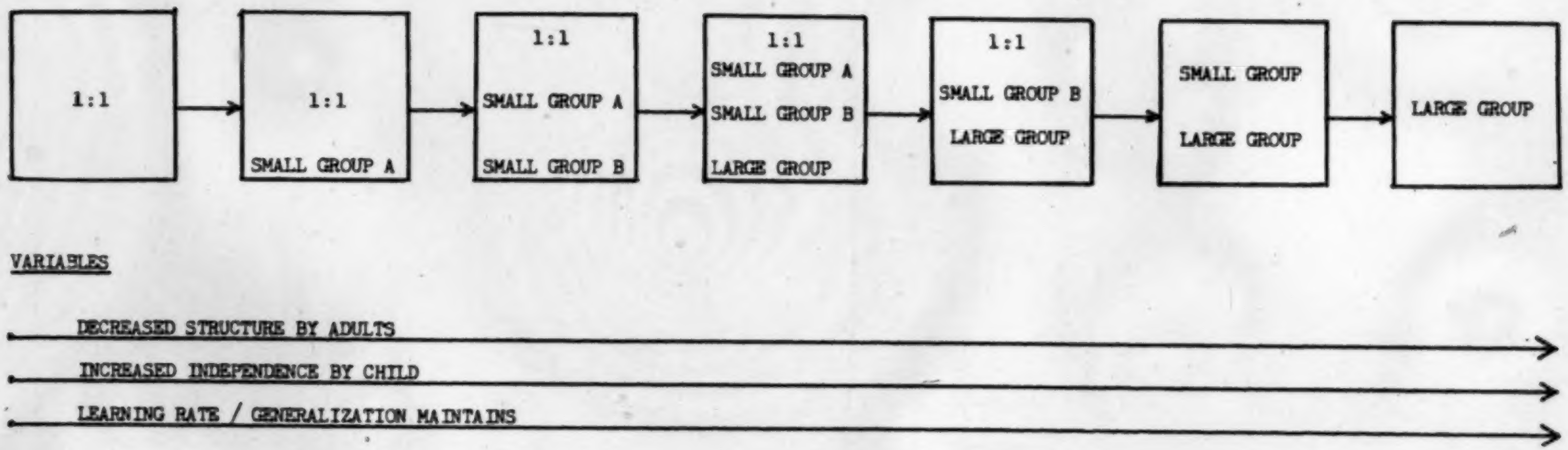

1:1
1:1
SMALL GROUP A
1:1
SMALL GROUP A
SMALL GROUP B
1:1
SMALL GROUP A
SMALL GROUP B
LARGE GROUP
1:1
SMALL GROUP B
LARGE GROUP
SMALL GROUP
LARGE GROUP
LARGE GROUP
VARIABLES
DECREASED STRUCTURE BY ADULTS
INCREASED INDEPENDENCE BY CHILD
LEARNING RATE / GENERALIZATION MAINTAINS

Figure 4. Example of a continuum of transitional learning environments.

learn in the increasingly less structured and individualized environments of the center-based program, concurrent placement within a community setting was viewed as a means of assessing the child's readiness for full integration and for assisting in the eventual transition process to less specialized environments on a full-time basis. A graduated series of steps, ranging from individual attention within the community setting by Preschool Services or community agency staff to independent functioning within that group, was the structure utilized to facilitate generalization of treatment gains, to determine treatment objectives specific to the integration process, and, finally, to assist in the identification of the optimal learning environment for the child.

While full integration into a non-specialized, community educational environment was the general aim of Preschool Services, it was recognized that this type of setting would not necessarily be the most enabling nor the most optimizing for all children. A primary goal, therefore, for the off-site component of the Preschool Services intervention strategy was identification of the *optimal* as well as the least restrictive learning environment for the child. The structure dimension of the intervention strategy which incorporated the environments of center and community was seen to attend to the variables of the child's individual learning needs and the rate of acquisition of prerequisite learning and adaptational skills and strategies for full integration and continued development within that integrated setting (Beveridge & Brinker, 1980, Sailor, Wilcox, & Brown, 1980; White, 1980).

For the family, a similar series of decreasingly intensive and individualized programming steps was seen as being necessary (Bricker & Casuso, 1979; Halpern & Kissel, 1976; Heifetz, 1980; Hemsley et al., 1978). Intervention with and for parents occurred within the context of the view of the parents as the primary and long-term care-givers for the child. Programming, therefore, was based on parental needs as they related to optimization of their child's development. In other words, a major goal of the intervention process was to increase parental independence from specialized resources. This was viewed as a process which required attention to the specific and specialized needs of individual parents but which also facilitated the development of skills applicable in more natural environments. At a more specific level, as illustrated in Figure 2, assisting parents to become more effective agents of change with their children was viewed as a process characterized by a series of graduated steps including the following: individual counselling or consultation with a staff member to determine and agree jointly upon parent-child interaction objectives, observation and modelling in a staff-parent-child situation, independent utilization of skills in a parent-child interaction situation, and generalization of skills to interactions with other children within the family or within the child's peer group.

As noted previously, not all steps on this continuum were required by all parents. Similarly, the objectives of parent programming and involvement were dependent upon the needs and ecological variables operating within the family context. For example, given economic, marital, or health crises existing within the family, the role of the intervention program as it related to the family would be oriented toward provision of primarily parent-based service rather than toward parent-child interaction or child development alone.

The primary operational feature which resulted from inclusion of the structure dimension of intervention variables was provision of a variety of learning situations within the on-site programs. As discussed previously, the range of environments included individual therapy, small-group and large-group structures for the child, and a similar series of transitional steps for parents.

4. The *process* dimension. The final category of intervention variables was named the process dimension. The basic process seen to be represented by this dimension was child change and growth, particularly as it related to the intervention goals of adaptation and integration. Depicted

as a sequential process of learn → generalize → stabilize, this dimension attended to variations in the child's functioning and performance, depending on whether the child was in the process of acquiring a new skill, generalizing it within the learning environment (center, home, or community) or to other environments, or evidencing stabilization of the skill across his developmental contexts.

Within the matrix framework of the Preschool Services strategy, learning, generalization, and stabilization were viewed as processes interactive with the variable dimensions of environment, content, and structure. Client growth and change were not seen as simply a function of, nor dependent on, the single dimension of measurable developmental change within the child. Rather, this perspective provided for variations *between* children's rates of progress and attended to variations *within* an individual child's rate of growth and change. For example, a child may well have learned the skill of shoe-tying and have generalized it from home to center, but is quite unable to do it in the day-care center until other aspects of that social environment have been conquered.

Within the multi-dimensional process orientation, the lack of generalization would not necessarily be viewed as a weakness or deficit in the child alone. Rather, the child's individual pattern of growth would be analyzed within the context of the interaction of the variables of the matrix. As a consequence, the intervention goals would not simply be based on acquired skills, but on actual, functioning levels within varying developmental contexts.

The inclusion of this variable dimension completed a conceptual framework for intervention which consistently attended to the variables of environment, content, structure, and process but which focused on their interaction and inter-relationship as the primary basis for assessment, treatment, and evaluation. The major implication of this orientation was commitment to intervention based on individual client's needs and progress rather than preset, predetermined treatment techniques and prescriptions. Through the multi-dimensional interactive systems approach, the Preschool Services strategy was to provide a non-categorical, ecological, and client-centered perspective of intervention *from which* individual programs could be derived and *within which* a range of therapeutic techniques could be utilized to facilitate adaptation and integration within natural environments.

The Service Delivery Framework of the Intervention Strategy

This conceptualization of intervention had major impact on the design, implementation, and evaluation of the Preschool Services' programs. At a general level, the required flexibility and complexity inherent within this view presented a challenge to design integrated program structures and components as unique and dynamic as the client population served. At the same time, while these components would have to provide for the changing needs of the clients, they would also have to provide systematic intervention to enable integration and adaptation in less restrictive environments.

The multi-dimensional interactive systems approach described above did lead to definition of five of the major operational features of the Preschool Services' programs. Alluded to previously, these features included:

1. Analysis of three primary environments in the intervention process (center, home, and community);
2. utilization of a team approach to the child and family;
3. involvement of natural agents of change in natural environments through the use of the triadic model for intervention;
4. provision of a graduated series of transition steps (i.e., learning environments) for the process of integration; and
5. individualization of programming in duration and intensity as well as in content.

The development of a service delivery system which would coordinate and synthesize these features within an optimizing, client-centered perspective required a focus on three primary processes. The *first* was the process of determination and prioritization of treatment goals for the child and family specifically and for the client population in general. The key issue underlying this process was definition of an appropriate balance between highly individualized treatment (i.e., 1:1 therapy in a specific area of development) and transitional group learning environments. A *second* key process was focus on communication and coordination of services and intervention steps so that, from a client perspective, fragmentation and confusion did not occur. The *third* process, interactive with the other two, was continuity of care. As the majority of the population had received specialized services or interventions prior to their entry into Preschool Services, and as the majority would move into other programs in the community, an emphasis on contact and information sharing with other agencies or programs was seen as a necessary step in the provision of ecological and lifespan intervention.

At a second level, continuity of care was also viewed within the context of learning environments for the child and family. As indicated previously, movement into more natural, less specialized community environments was a transitional process. A second continuum, therefore, underlying the process of continuity of care was attention to continuity between pre- and post-environments and the intervention environments.

The focus on these processes led to the identification of specific program development and procedural needs at administrative, clinical, and research (particularly evaluation) levels. As attention to these needs led to the development of the second major component of the Preschool Services intervention strategy and service delivery system, they are outlined briefly below:

At the administrative level, the primary service delivery tasks were defined as being:

1. Development of intervention structures and components flexible enough to meet the complex, variable, and changing needs of the client population yet integrated to incorporate individual and small group intervention in the center, intervention with the family, and intervention in community educational settings;

2. definition of decision-making and team-functioning frameworks for the formation, implemention, and evaluation of individual client programs;

3. coordination of services within the intervention programs, and between the intervention programs and other agencies or program to facilitate continuity of care for the clients as they moved through the intervention programs; and

4. provision for administrative continuity within and across the three programs as they operated in the center, in the home, and in the community.

At the clinical level, the identified procedural needs included:

1. The need for a structured process for derivation of individual treatment plans within a team framework;

2. the need for a common base of information and a consistent format for communication between team members, between team members and parents, and with community agency or educational placement personnel; and

3. the need for systematic and regular evaluation of client progress within the multi-dimensional interactive system approach.

At the research and evaluation level, the issues raised reflected many of the trends and challenges within the field of preschool intervention. In support of the view that the effects of intervention are not necessarily dependent upon a single factor (Gray & Wandersman, 1980; Zigler & Seitz, 1980) nor measurable along a single dimension (Kendall, 1980; Thomas & Marshall, 1977), Preschool Services aimed to adopt a broader perspective of evaluation. This perspective and the issues which it reflects are perhaps best expressed as a series of questions: How can the *impact* of intervention on a child and family be assessed? What is the impact of the intervention programs on the total client population? What changes and program developments are required to meet the changing needs of the clients and the community? How can naturalistic and longitudinal research be incorporated *into* the intervention process (Gallagher, Ramey, Haskins, & Finkelstein, 1976; Schaefer, 1976; Scott, 1980)?

The system developed by Preschool Services to respond to these program development and procedural needs was the "Process Evaluation System" (PES), a client-centered procedural framework for the formation, implementation, and evaluation of individual treatment programs. The primary purpose of the PES was to provide a framework for communication, coordination, and continuity within the intervention process. The Preschool Services intervention strategy coupled the PES with the conceptual framework of the multidimensional interactive matrix (see Figure 2, page 26) to form a service delivery system from which individual treatment plans and intervention program components could be derived, implemented, and evaluated. Consistent across both elements of the intervention strategy was a commitment to intervention based on specific clients' needs and progress, rather than on preset, predetermined treatment techniques and prescriptions.

In reflection of the above perspective and in recognition of the heterogeneous nature of the client population, the PES was based on the steps of client movement through the intervention process. In other words, program development and procedural guidelines were devised to correspond with major steps in the client's movement and progress rather than with externally defined expectations and criteria. An example of this distinction was the organization of Preschool Services in a manner which provided for entrance into the intervention program at any point during the calendar year, enabled entrance into varying components based on client need, and allowed varying lengths of involvement in the intervention process.

The common thread among children and families, and among treatment teams, was not diagnostic categories, specific treatment programs and approaches, nor a time-defined intervention process. Rather, the Preschool Services programs operated within a framework based on the common but not necessarily simultaneous points of client movement within the intervention process. The key points in child and family movement were seen to form the critical framework for the processes of communication, coordination, continuity, and team decision-making. The PES was developed to incorporate these processes systematically within the intervention programs and to facilitate the design, implementation, and evaluation of individual treatment programs within the multi-dimensional interactive matrix perspective of intervention.

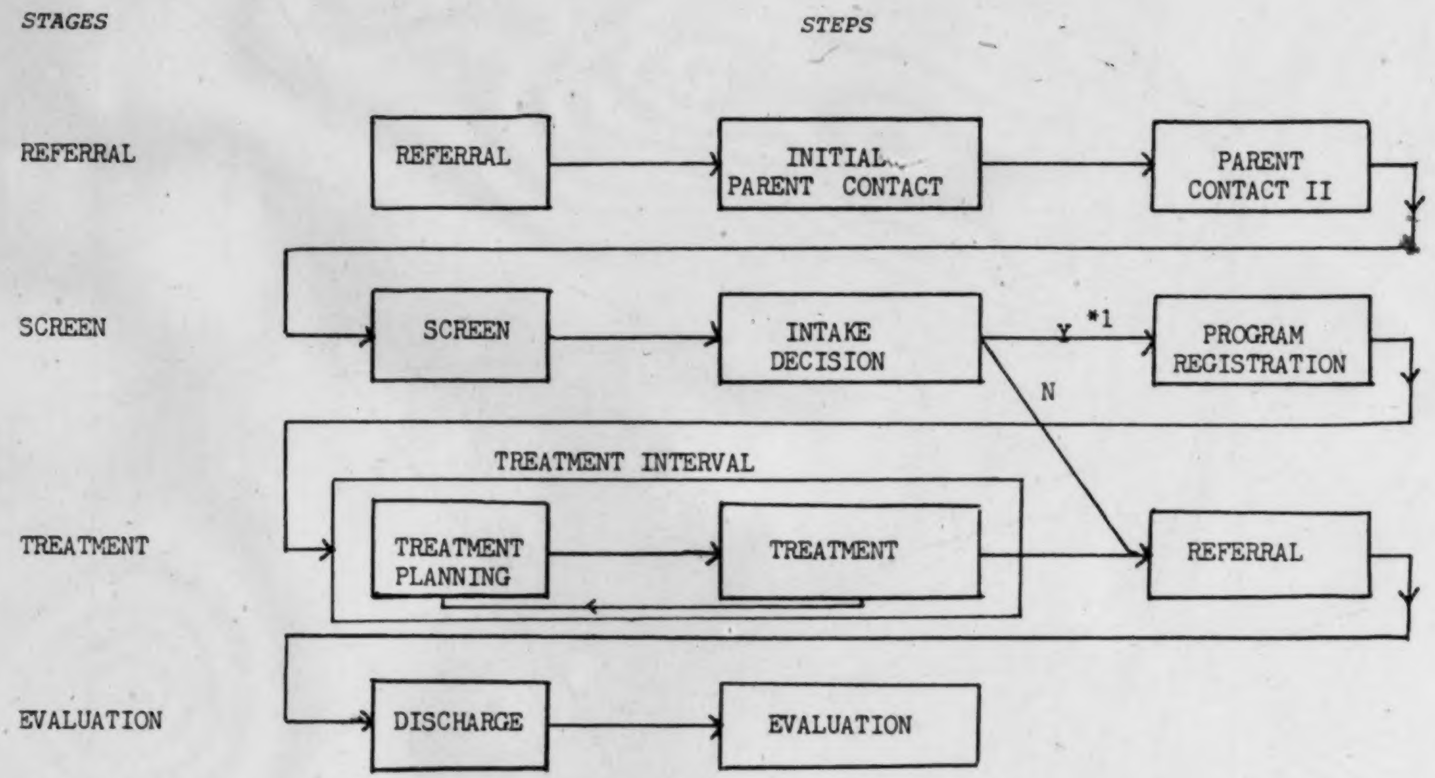
Client movement through Preschool Services was seen as being composed of four basic *Stages:* referral, screening, treatment, and evaluation, each of which contained major points of information-gathering and decision-making. These points, termed *Steps*, formed the specific framework for the PES. Figure 5 presents the Stages and the sequential arrangement of the Steps as they reflected client movement within the Stages.

While the Steps of the PES provided a basic framework for client movement and for team decision-making, the goals of communication, coordination, and continuity were incorporated through definition of *continuous processes* across the Steps. These processes were grouped under four main categories and were termed the "Dimensions" of the PES.

The first Dimension, "Clinical Responsibility," encouraged administrative continuity by identifying the staff member(s) primarily responsible for the implementation of each Step. This included responsibility for communication and coordination within each Step and decisions made at each point in client movement.

The "Objectives" Dimension defined the primary goals for each Step. Table 1 presents an outline of the Objectives for each Step of the PES: that is, for each point of client movement through the intervention process. The definition of specific sequential objectives for each Step facilitated continuity and clarity from staff member as well as client perspectives.

The "Procedures" Dimension suggested general guidelines as to the means of achieving the Objectives of each Step. While these guidelines did not determine the actual


STAGES
STEPS
REFERRAL
SCREEN
TREATMENT
EVALUATION
REFERRAL
INITIAL PARENT CONTACT
PARENT CONTACT II
SCREEN
INTAKE DECISION
Y *1
N
PROGRAM REGISTRATION
TREATMENT INTERVAL
TREATMENT PLANNING
TREATMENT
REFERRAL
DISCHARGE
EVALUATION

*1. *Y = child and family are accepted into the Program.*
N = child and family are not accepted into the Program
but move to the Referral, Discharge and Evaluation Steps.

Figure 5. Process Evaluation System Framework: Stages and Steps of client movement.

Table 1

OBJECTIVES OF THE STEPS OF THE PROCESS EVALUATION SYSTEM

Step	Objective
1. Referral	Register child and family with Preschool Services Initiate information collection
2. Initial Parent Contact	Establish working relationship with parents Obtain child/family history
3. Parent Contact II	Strengthen working relationship with parents Obtain parents' perception of child's functioning and needs
4. Screen	Obtain all relevant data for intake decision
5. Intake Decision	Review collected data and information Review parent commitment to date Make intake decision Recommend alternative referral if child/family are not accepted into Preschool Services (move to Step 9)
6. Program Registration	Register child with a specific Program within Preschool Services Establish initial treatment team Establish working file based on data obtained in Steps 1 through 6
7. Treatment Planning	Establish short- and long-term treatment goals for child/family Establish treatment strategies to be utilized to meet those goals
7a. Treatment Planning (continuous)	Review progress in meeting goals Formulate new goals *or* recommend discharge
8. Treatment	Intervene to attain treatment goals Document change and progress
9. Referral	Refer the child/family to the appropriate service Introduce child/family to the service Provide receiving service with all pertinent information
10. Discharge	Close child's Preschool Services file Summarize treatment data
11. Evaluation	Obtain annual follow-up data and information relevant to outcome evaluation

treatment techniques nor individual treatment goals, they did serve two primary purposes. First, they provided a common base of operational procedures for the three individual Preschool Services programs which enabled continuity within the service delivery system. A primary example of this would be the systematization of procedures across the three programs for contact with and referral to other agencies or school boards. Secondly, the Procedures Dimension defined the means by which treatment team decisions were reached and implemented within a non-categorical, holistic, and ecological perspective of the intervention process. This was accomplished largely through the inclusion of the fourth Dimension, the "Information" Dimension.

The Information Dimension was designed to facilitate continuous and systematic data collection throughout the intervention process. The collection of data in six areas, described below, through interview, and observation and measurement by team members in conjunction with parents and community placement personnel, formed the basis for treatment planning, implementation, and evaluation. As outlined in the Procedures Dimension, each client's unique profile of needs and progress was derived from this information base. This was utilized as the basis for decision-making at any point in the intervention process.

Treatment team formation, prioritization of treatment goals, definition of appropriate placement within the range of Centre-based and off-site components of Preschool Services, and the duration of intervention were determined through consideration of the *interaction* of the variable dimensions of content, structure, environment, and process as they were represented in the six areas of the Information Dimension of the PES. In other words, the PES provided the critical link between the conceptualization of intervention as a multi-dimensional process and the actual service which the client received.

Figure 6 represents the PES model for client movement Steps of Program Registration, Treatment Planning, and Treatment. It should be noted that these Steps occurred following the screen process and the decision to accept the child and family into Preschool Services. In addition to providing an illustration of the operationalization of the Dimensions of the PES, Figure 6 is a schematic of the interrelationship between the data of the Information Dimension of one Step and the Objectives and Procedures of the following Step. For example, the Step 7 Initial Treatment Planning Objective of establishment of short- and long-term treatment goals would be met through derivation of the child and family's profile from the information obtained through the previous six Steps. Updating of this information base in all areas through the Procedures of Step 8, Treatment, would similarly be fed back into the

STEPS DIMENSIONS	No. 6 PROGRAM REGISTRATION	No. 7 TREATMENT PLANNING (initial and continuous)	No. 8 TREATMENT
Clinical Responsibility	PROGRAM COORDINATOR/TREATMENT TEAM	PROGRAM COORDINATOR/TREATMENT TEAM	PROGRAM COORDINATOR/TREATMENT TEAM
Objectives	To register child and family in a specific program. To form initial treatment team.	To form individual short- & long-term goals. To develop individual treatment strategies. To review progress and modify goals and strategies.	To attain individual treatment goals through implementation of individualized strategies.
Procedures	Establishment of working file containing data obtained in Steps 1 through 5. Review of information to define initial treatment team based on prioritized needs.	Team and parent review of information on a regular basis.	Dependent on treatment goals & strategies developed by individual treatment teams and the structure of the specific Program.
Information	Functioning Level: Staff, parent, and previous intervention programs' observation and report. Behavioral Description: Staff and parent observation and report. Parent Measure: Interview and screen process information. Standardized Testing: Data from previous assessments. Medical/Health: Health history. Demographic: Address, etc.; intervention and community placement history.	Functioning Level: Profile of needs and/or changes. Behavioral Description: Profile of needs and/or changes. Parent Measure: Parent involvement information. Standardized Testing: Comparative data; profile of needs and strengths. Medical/Health: Review of pertinent health factors. Demographic: Update of pertinent changes.	Functioning Level: Documentation of program and changes. Behavioral Description: Documentation of program and changes. Parent Measure: Documentation of program and changes. Standardized Testing: Reassessment as required. Medical/Health: Monitoring of health needs. Demographic: Update of pertinent changes.

Figure 6. Dimensions of Steps 6, 7, and 8 of Process Evaluation System.

continuous treatment planning aspect of Step 7 to form new or revised short-term goals and to evaluate long-term goals.

Figure 6 also introduces the six primary areas of Information perceived to be central to the development of individualized, client-centered intervention plans. These six types of data were defined as follows:

1. *Functioning Level:* A developmentally based description of the child's skills in his or her primary environments in the areas of social-emotional, language, motor, and cognitive development. Criterion-referenced checklists and staff, parent, and community agency personnel observation were the primary sources of information.

2. *Behavioral Description:* Identification of specific behaviors to be learned by the child which were compiled and prioritized by the treatment team, parents, and, where appropriate, community placement personnel. Integration and adaptation within less restrictive environments formed the major background for definition of treatment objectives based on consideration of this area of information.

3. *Parent Measures:* Information regarding parental involvement in the intervention process, parent-child interaction, and parental need for service.

4. *Standardized Testing:* Quantification of developmental change and rate of change based on

standardized instruments. It should be noted that, due to the variety and complexity of needs of the client population, determination of a common battery of standardized tests was not attempted.

5. *Medical Information:* A record of the health history of the child and family with regular updating and on-going attention to variables such as medication or diet as they related to intervention.

6. *Demographic Information:* Family history and information pertinent to intervention, such as previous treatment history, agency involvement other than A.C.H., and changes in the family's occupational, health, or life-style status.

The consistent inclusion of these six areas of information in intervention planning, implementation, and evaluation provided treatment teams with a client-centered, multi-dimensional framework for individualized intervention. During regularly scheduled, treatment-team meetings, variables such as standardized assessment results, observation-based evaluation of functional development, and events or changes in the child's socio-ecology were considered. The process of development of individualized treatment strategies and assessment of progress occurred within this context. Utilization of this broad information base was a primary characteristic of the Preschool Services intervention strategy, and a major technique for replacing the isolated event, symptom-specific perspective of intervention with a multi-dimensional process view.

Additionally, this Dimension of the PES, in combination with the Procedures Dimension, attended to the central processes of communication, continuity of care, and coordination of services. The centralized, systematic, and cumulative documentation of a child and family's intervention history, of variables interacting with the intervention process, and of the child and family's response to intervention within a holistic and ecological perspective was structured by the Information Dimension, thus facilitating an integrated approach to program development and service delivery.

The primary purpose of the PES was to serve as a framework for service delivery from a client-centered perspective. It was also developed to provide a data base to facilitate evaluation of intervention impact, to identify service delivery changes or program development needs required to meet the changing needs of the clients and of the community, and to enable the incorporation of naturalistic and longitudinal research into the intervention process. While the extensive individualization and flexibility inherent within the Preschool Services intervention strategy prohibited traditional formats for evaluation, the PES did provide a systematic method for documentation of individual intervention programs. The inclusion of pre- and post-treatment information such as developmental history, demographic descriptors, and educational placement enabled identification of common factors within the client population which in turn facilitated identification of program development needs. Further, the consistent format for client movement and documentation of that movement within the three programs was seen to provide a potential framework for research studies and outcome evaluations.

SUMMARY OF CHAPTER 2

This chapter has described an intervention strategy based on a view of intervention as a multi-dimensional *process*. The two primary elements of the strategy--the conceptual framework and the service delivery framework--were presented as forming a context for intervention which aimed to optimize through attention to the dynamic between the complex and interactive variables of individual children's developmental processes and socio-ecologies, and the equally dynamic and complex variables and processes of natural, future environments. This context defined a non-categorical and client-centered strategy for intervention which systematically programmed for integration and adaptation but which permitted utilization of a broad range of therapeutic techniques and methods to meet individual needs.

Chapter 3

PRESCHOOL RESOURCE CLASSROOM PROGRAM: IMPLEMENTATION OF A MULTI-DIMENSIONAL PROCESS APPROACH TO INTERVENTION

The three treatment programs which composed Preschool Services shared the conceptual framework, the operational features, and the operational guidelines of the strategy discussed in Chapter 2. However, consistent with the strategy's characteristic of commitment to an intervention process based on client need and progress rather than on preset treatment techniques and prescriptions, each program had the flexibility to develop intervention components to meet the specific needs of the population referred to that program. In this chapter, the Preschool Resource Classroom Program (RCP) is discussed as one example of service provision based on the Preschool Services intervention strategy.

The Children

The preschool children and families referred to the Preschool RCP were identified by the other two Preschool Services programs, by the Diagnostic, Assessment, and Treatment Centre of A.C.H., and by community education systems (e.g., the Calgary Board of Education, Early

Childhood Services programs, etc.). They were identified as requiring specialized and comprehensive (i.e., multidisciplinary) intervention to facilitate eventual placement in the least restrictive educational environments. While the children referred to the RCP had complex learning needs which required specialized resources such as occupational, physical, psychological, or speech therapies, their need for highly structured and individualized therapy was not as extensive as that of the populations served in the other two Preschool Services programs.

These children were often at or near school age, chronologically, and while they had demonstrated some potential to function and to learn in small-group situations (1:4), they were not demonstrating the skills to function independently in the large-group learning environments of community educational placements. This referred population encompassed a broad range of diagnostic categories, intervention histories, and therapeutic needs, but all required intensive intervention to facilitate the identification of and adaptation to their optimal social and educational environments in both the short and the long term.

Purpose and General Characteristics of the RCP

The stated purpose of the RCP was to provide a large-group, structured, transitional learning experience for preschool children with specialized educational needs.

The application of the Preschool Services intervention strategy to this population of children led to the development of an intervention program unique to traditional clinical settings. The unique characteristics of the RCP which evolved in response to the stated purpose and in the context of a multi-dimensional process approach to intervention were: (1) the provision of a center-based *group treatment* environment which approximated the curriculum and activities of a community classroom as closely as possible; (2) the use of the triadic model as a primary intervention technique in the center as well as with parents and in the community; and (3) extensive coordination and communication with community education systems to facilitate identification of the optimal learning environment and to facilitate transition for the child and family.

The Resource Classroom operated as a transition step prior to the child and family's movement into community educational programs. As discussed previously in the structure dimension of the intervention matrix, a group-treatment setting was seen as a critical learning environment in preparation for integration and adaptation in less specialized and natural environments. The RCP, therefore, operated two, half-day, on-site classrooms, each with a projected capacity of 12 to 15 children.

As discussed in further detail later in this chapter, the implementation of classroom activities was the primary responsibility of the teachers on staff. The development of day-to-day objectives and activity plans did, however, incorporate individual treatment plans defined by the children's treatment teams. The utilization of the teacher as the primary mediator was viewed as a technique for providing additional continuity for the child between the intervention or transitional environment and concurrent or future educational classrooms.

As indicated above, the majority of the children were at or near school age at the time of their participation in the RCP. Systematic liaison with community education settings was viewed as a central process to maximize the effectiveness of the intervention. From a client perspective, communication and continuity between the intervention environment and community environments enabled a smooth transition process. From the RCP perspective, this liaison facilitated the development and implementation of intervention plans based on knowledge of the expectations of future environments.

RCP Intervention Priorities

The programming priorities of the RCP were based on the conceptualization of intervention discussed in Chapter 2. Through attention to the interaction among the variables of structure, content, environment, and process, these priorities formed a multi-dimensional framework for intervention and they included the following objectives:

1. Focus on the development of the child's independent functioning and participation in a group learning situation in which intensive structure and adult attention is gradually decreased but in which the child is able to maintain developmental progress.

This programming priority attended to the variables of structure and content as they affected and were affected by the child's process of learn → generalize → stabilize. One of the primary rationales for a group-treatment focus was the facilitation of short- and long-term integration and adaptation through providing the child with "learning-to-learn" strategies. Examples of learning-to-learn strategies (i.e., skills for participating in group learning experiences) as defined within the RCP were:

- to follow classroom routines and instructions independently;
- to initiate and to participate in group activities;
- to deal appropriately with frustration and change;
- to interact with and model from peers;
- to function in a group situation with a minimum of adult attention and direction; and
- to demonstrate self-control, acceptance of responsibility, and independence within a group.

In addition to the lifespan development emphasis implicit within this priority, the focus on these skills within the intervention process also served a diagnostic function by facilitating the identification of the optimal learning structures the child required to continue developmental progress.

2. Provision of opportunities to acquire the skills required by the next educational environment in all functioning areas.

This focus was based on a perspective similar to that of the "criteria of the next environment" of Vincent et al. (1980). Stated in other terms, the expectations of the least restrictive, natural, or post-treatment environment formed the content of the intervention environment. The development of preschool readiness skills or the creation of adaptational aids and techniques to facilitate successful functioning in a community classroom took precedence over individual therapy to correct specific developmental deficits.

Individualization occurred within the context of the child's unique developmental profile and needs as they interacted with the expectations of natural environments. The development of skills to support integration and adaptation was viewed as an on-going process to be incorporated within the intervention program rather than as an end point to occur following intervention.

3. Assessment and development of strategies to facilitate and maintain generalization and

stabilization of acquired skills across the child's developmental contexts.

In keeping with the Preschool Services intervention strategy, this objective extended the programming focus of the RCP beyond the center-based component to incorporate the child's primary relationships and primary developmental contexts. This component was viewed as but a portion of the opportunities for learning and generalization.

Parental participation in the RCP was one of the criteria for admission. As well, the majority of children attended a second, half-day preschool program in the community (day-care, ECS programs, nursery or playgroups, or swim and gym type experiences). Throughout the child's involvement, generalization was a key focus of the interactions between RCP staff, parents, and community teachers. Through information-sharing, observation, and joint goal-setting, it was possible to monitor and support the child's functioning and progress in three developmental contexts. Factors affecting the child's generalization were assessed and consequent strategies developed to assist the process in the three environments.

4. Facilitation of the development of independence and child advocacy skills by parents as their child entered the larger educational systems in the community.

Through this programming priority, the RCP provided a transition step for parents between the sheltered and specialized environment of Preschool Services and the larger educational systems in the community. For parents whose children were moving beyond preschool age and who continued to have complex, often undiagnosed, learning problems, the step to "school" and most often to the special education stream, brought many issues with it.

A primary issue was acceptance of the long-term nature of their child's needs and the readjustment in their role as parent in light of the continuing needs. From a different perspective, in their role as long-term caregivers and primary advocates for their child, a major area of need was location of the most appropriate resources and placements for their child in the community. (It should be noted that these children and families would continue to have the resources of A.C.H. available to them but that intensive day-treatment programs were not available beyond school age unless they required extensive specialized resources and physical facilities unavailable in the community.)

As a consequence of these and other issues, a service priority was to provide parents with: (1) the understanding, acceptance, and knowledge of their child's educational needs in both the short and long terms; (2) an awareness of the resources available in the community; and (3) knowledge of the way to access these resources for themselves and for their child.

RCP Intervention Objectives

Within the framework of these four programming priorities, the operation of the RCP was based on the following primary intervention objectives:

1. To prepare children and families for transition from a clinical environment to community education systems while attending to their special needs;

2. to provide a mid-sized learning environment which would allow for assessment and treatment of complex learning problems;

3. to provide a diagnostic environment which would enable description or definition of the most appropriate educational environment for a child;

4. to provide a complete functional assessment of each child for the purpose of identifying specific, individual needs, strengths, and learning style from an holistic perspective;

5. to provide specialized, intensive, and individualized treatment on-site, in the home, and in the community;

6. to provide parents with the information, skills, and support to assist them in their role as primary teachers, advocates, and care-givers;

7. to maintain close liaison with community placement personnel for individual children to facilitate

consistency and continuity of care from a child perspective, and to evaluate generalization and stabilization of functional gains;

8. to work closely with the community in general and with other specialized services to promote, facilitate, and evaluate the process of integration of children with handicapping conditions; and

9. to assist in the education and training of students in areas such as early childhood, special education, educational psychology, speech and language, and to be a resource to the community as a demonstration classroom.

These objectives were reflective of the multidimensional process view of intervention which formed the framework for intervention within Preschool Services. They were also reflective, however, of the distinguishing characteristics of the RCP as it utilized a conceptual framework for intervention in a manner to meet the needs of the specific children and family participants. Additionally, a broad, social systems, process approach to intervention was inherent in the inclusion of specific RCP objectives relating to interaction with non-child-specific yet related services and systems within the community.

Criteria for RCP Admission

Given the special needs of the client population, the intensive and comprehensive nature of the intervention objectives, the resources required, and the expansion of programs available in the community, the RCP had a set of admission criteria. This enabled definition of the needs of children and families which could best be met through participation in the RCP.

These criteria were developed as clients moved through the RCP; that is, they were based on experience and knowledge of the community. The process of referral, screening, and decision-making followed the Steps of the PES as outlined in Chapter 2. This process provided the information base required to assess the child and family's appropriateness vis-à-vis the criteria for admission.

The criteria for admission were as follows:

1. The child was between the ages of 3.5 years and 6.5 years (a requirement applicable to all Preschool Services programs).

2. The child required specialized support in two or more of the following functional areas: education, communication, social-emotional behavior and adjustment, fine motor coordination, gross motor movement, sensory performance. This criterion assisted in identifying children whose needs could be met through community resources; that is, children and families who did not require a clinical, highly specialized environment.

3. The child demonstrated an overall functioning level within the 3-year to 4-year range with some scatter

in skills for the morning classroom program or within the 4-year to 5-year range for the afternoon program. Placement in the center-based program was based on non-categorical functioning levels, but in order to provide a group-treatment environment, a degree of homogeneity of skill levels was necessary. The child's overall level of development, rather than chronological age or handicapping condition, was utilized to determine the appropriate peer group within which integration needs could be met.

4. The child demonstrated the ability to learn in small-group situations with individual therapy limited to .5 hours per day. The rationale for the group treatment characteristic of the RCP was based on the concept of transition steps toward participation in large-group learning environments. This criterion assisted in the identification of children whose special needs could realistically be met in the group-treatment environment.

5. The parents demonstrated readiness to commit themselves to active involvement in their child's program through attendance at: (a) the on-site program on a regular basis, or by having significant regular contact with a staff member; (b) parent groups and meetings provided by program staff; and (c) conferences with staff to discuss and plan their child's program. This admission criterion reflected two basic aspects of the Preschool Services intervention strategy: first, the view of intervention as a process in

which the child's primary social relationships need to be incorporated to facilitate the development and long-term support of functional gains, and, secondly, the recognition of the continuum of parental needs and resources.

RCP Structure

Through presentation of programming priorities, the purpose and objectives, and the client population of the RCP, the characteristics of the intervention program were introduced above at a general level. Below, the structure of the center-based program, the parent involvement, and the community involvement components are outlined in order to define, at a more specific level, the characteristics of the RCP as it operated on a daily basis. Consistent with the Preschool Services intervention strategy, each component had the flexibility to incorporate a range of treatment techniques to accommodate individual client's needs. These components are described within that perspective. Subsequently, the procedures for the development, implementation, and evaluation of individual treatment plans are discussed.

The center-based component.

As indicated previously, the RCP operated two, half-day, center-based classrooms. The projected capacity for each classroom was 12 to 15 children, but this number could vary at any point during the 11-month period of operation. Two factors accounted for this variation. First, children could be admitted to or discharged from the RCP at any point in the year. Transition out of the RCP was primarily dependent on the child's readiness, although placement availability and chronological age were also factors. The second factor affecting the number of children attending each classroom on a daily basis was the intensity or complexity of the children's needs. Each classroom had a full-time teacher and a child care worker to provide individualization within the group setting but frequently the children initially required a high degree of individual attention to participate in the group activities. As children demonstrated more independence within the group, more participants were admitted.

The daily schedule of activities in each classroom was planned to approximate as closely as possible the programs and expectations of community classrooms; as well, each child was provided with the opportunity to participate in whole-group instruction, in small-group learning activities and independent task situations individualized to specific needs, and in peer interaction situations. This range of learning structures was established to facilitate the development of learning-to-learn, adaptational, and social skills while also providing intervention individualized to meet a child's specific needs. Table 2 illustrates a classroom timetable representative of the on-site treatment program.

As indicated previously, planning of activities

Table 2

EXAMPLE OF A DAILY TIMETABLE FOR THE CENTER-BASED CLASSROOM

Time	Activity	Skill Area
08:45	Arrival	Activities of daily living (ADL)
08:50	Circle Time	Group and social skills; development of vocabulary and general knowledge
09:05	Individual Tasks	Fine motor/graphic skills, readiness skills, cognitive skills, independent task completion
09:30	Activity Centers	Play and social skills, language development
10:00	Language Groups or Gross Motor Groups	Specific language or gross motor skills, group skills, social skills
10:30	Snack or Cooking Activity	Language skills, peer interaction skills, ADL skills, group skills
10:50	Music/Finger Plays or Story Time	Fine and gross motor skills, readiness skills, language skills, group skills
11:10	Departure	ADL skills, social skills

within a daily timetable occurred within the context of the Resource Classroom's programming priorities and the specific needs of individual children. The actual day-to-day planning and implementation was the primary responsibility of the teachers and child care workers in conjunction with the RCP coordinator and other members of staff. The latter, called the "resource staff," included a psychologist, speech therapist, nurse, education consultant, social worker, and an occupational therapist. It should be noted that, with the exception of the speech therapist, these were part-time positions in the RCP. The resource staff involvement in the planning and implementation of the on-site component could occur in one or all of the following ways:

1. Individual child assessment, formal or informal;

2. small-group treatment (e.g., the physiotherapist might run the Gross Motor Group on an occasional basis or provide group treatment for the severely physically handicapped during the Gross Motor Group time);

3. individual therapy (due to the group-treatment orientation of the RCP, individual therapy was limited to one-half hour per day for each child);

4. provision of discipline-specific goals for the teacher to incorporate into group activities;

5. development of individualized treatment strategies to be incorporated into group activities (e.g., behavior management programs, adaptations of Blissymbolics

to enable group participation, fine motor aids to facilitate development of graphics skills);

6. provision of general consultation for development of group activities (e.g., the speech therapist might provide auditory training activities appropriate for use in a classroom situation); or

7. recommendations for inclusion of specific developmental skills in general programming (e.g., the occupational therapist might provide direction in the inclusion of the adaptational skills of independence in dressing, undressing, and hygiene in the daily schedule).

Through the utilization of a primarily group-oriented treatment environment and an emphasis on specialist consultation to more natural mediators, the on-site component of the RCP provided individualized and comprehensive intervention. The programming incorporated the development of skills and strategies to facilitate integration and adaptation within the intervention process. In addition to the focus on transition to more natural environments, the classroom provided an observational and assessment environment in which the child's optimal learning structure could be identified and the process of generalization monitored and facilitated.

Parent involvement component. The parents of the children who attended the RCP had experienced varying degrees of involvement in preschool intervention programs prior to admission. Some had attended other Preschool Services programs with their components of parent involvement, but for others the RCP was the first experience of participation in a program for their child and themselves.

With this broad range of needs and skills, the RCP attempted to individualize parent involvement as much as possible. Table 3 lists the eight basic, potential types of parent involvement. Development of parent involvement programs, that is, selection from among the types of parent involvement for individual children and families, occurred within the context of the parents' transition to the larger community education systems as well as within the perspective of parents as the primary, long-term, natural agents of change for their child.

Individualization of parent programming occurred primarily through dialogue between the parents and the child's treatment team. While specific, quantified criteria for parental involvement were not set, some degree of communication and participation was viewed as critical. The basic structure for these processes included: on-site observation/participation, regular telephone contact, attendance at recommended workshops and parent groups, and attendance at and participation in the tri-monthly "Major Review Conferences" with their child's treatment team. Through these modes of interaction, the treatment team was

Table 3

POTENTIAL TYPES OF PARENTAL INVOLVEMENT

---

1. On-site visits for observation of and involvement in their child's classroom experience, as a form of regular contact with specific team members, and informal discussion of plans and progress. [The frequency and extent of direct participation in programming varied from parent to parent and was dependent upon their available time and their child's individual program.]

2. Additional regular contact with team members by telephone and/or through communication books carried by the children.

3. Participation in the development of and implementation of home programs.

4. Regular contact with the psychologist or social worker for counselling or support in specific areas.

5. Attending conferences with their child's treatment team to discuss treatment goals and progress at home, on-site, and in the community.

6. Attending recommended parent groups.

7. Attending evening workshops, parent nights, or special events in the classroom.

8. Regular contact with the child's community placement, and communication with the treatment team regarding this involvement.

able to involve parents in their child's programming and to identify the family's service needs.

One of the principal forms of parent involvement alluded to above was conferencing with their child's treatment team on a regular basis. Within the RCP, parents were viewed as having a major role and, in fact, long-term responsibility for programming decisions which affected their child in the present and in the future. While regular communication with team members occurred frequently during the intervention process, formal conferences were held every three months. At that time, each treatment team member presented his/her treatment goals for the past three months, their assessment of the child's progress, and their recommendations for the next intervention period. These conferences were viewed as having three purposes: (1) to provide parents with information as to their child's program and progress; (2) to provide parents with an opportunity to question, discuss, or modify their child's program; and (3) to facilitate joint decision-making and planning.

An example of team decision-making (i.e., parents as members of the team) was the identification of a concurrent or post-intervention environment for the child. Parents were given the treatment teams' recommendations, and contact with potential placements was facilitated. The involvement of parents in this decision-making process, which included observational visits and conferences with representatives of school boards or community preschool programs, was viewed as a basic right of parents. It was also seen as a means by which RCP staff could assist parents in developing the skills, independence, and knowledge they would require in their roles as long-term child advocates.

One of the objectives of the RCP was to facilitate parental transition from a specialized environment to the education systems of the community. Provision of information regarding their child's specific learning profile and educational needs, and inclusion in program planning and decision-making, were viewed as priorities for this process. Two additional emphases were also used to assist transition. The first was based on the recognition that there were non-child-specific areas of information and support of interest to all parents. The second was the provision of opportunities for participation in the classroom program in ways which approximated the modes of parental involvement in community classrooms.

The RCP Monthly Newsletter was an example of an essentially non-clinical method of information sharing. Similar to school and early childhood education newsletters, these announced events of interest, described the classrooms' theme of the month and related activities, and provided copies of the songs, rhymes, and fingerplays the children were learning. The Newsletter was seen as a means of facilitating parental understanding of and participation in their child's classroom experiences within a framework more natural than traditional therapy.

Surveys were also taken to obtain parental input regarding their information needs and preferred method of obtaining that information (i.e., evening course vs. workshops vs. handouts). As a result, RCP staff were able to respond to *client-identified* needs for information and support. For example, the RCP staff arranged an evening workshop/panel discussion between parents and representatives of the community school boards to facilitate parental knowledge and understanding of the resources available for their child in these systems.

Evening "Open House" was another method utilized by the RCP team to involve parents and siblings as naturally as possible in a child's intervention program. These occasions provided the children with the opportunity to show their brothers and sisters their school, and to introduce their friends to them. These approximations of school concerts or parent-teacher nights also served to develop a support group among the parents and to de-specialize the treatment environment.

All staff participated in the parent-involvement component of the RCP in the following ways:

1. Providing assessment and treatment information for parents regarding goals, progress, and recommendations;

2. planning and implementing individualized parent

programs;

3. participating in the development of workshops, parent information packages, and general parent programming; and

4. facilitating parental involvement in the development of the RCP.

At a more specific level, and in keeping with the RCP objective of providing a transitional environment, parents were encouraged to maintain regular contact with their child's teacher. The teachers and child care workers were primarily responsible for facilitation of the on-site involvement of parents and for communication methods such as individual communication books, the monthly Newsletter, and telephone contact.

Resource staff involvement with parents, on the other hand, was differentiated. Their involvement was dependent upon the prioritized needs of the child and family; it could range from minimal involvement as a consultant to a child's treatment team to direct, intensive involvement on a regular basis. The potential roles for resource staff participation are outlined, by discipline, in Table 4.

Through utilization of this staff model for the parent involvement component of the RCP, parents were able to receive service individualized to meet their needs, but within the context of transition to the less specialized

Table 4

POTENTIAL ROLES OF RESOURCE STAFF
IN PARENTAL INVOLVEMENT

Resource Staff	Potential Role
Speech-, Occupational-, & Physiotherapist(s)	Home visits Individualized home programs provided in a specific area of development Regular contact with parents to review and/or modify home programs
Psychologist	Counselling or support in dealing with issues of child development, acceptance of their child's needs, and family functioning Regular contact in reference to psychological assessment and/or interventions such as play therapy, medication trials, or behavior management programs
Social Worker	Home assessments Counselling or support to the family Facilitation of special funding arrangements
Nurse	Home assessments/visits Information provided re preschooler's health and nutritional needs, immunization, dental hygiene, etc.
Educational Consultant	Information provided regarding community education systems and resources Liaison with community education systems for parents, particularly during the placement process

settings of the community.

The community involvement component. The third major component of the RCP was provision of service to and involvement in concurrent, transitional, and post-on-site community placements. This dimension of intervention occurred on a continuum from 1:1 staff:child interaction within the community setting to consultation with the placement's teachers. This component operated within the framework of the following objectives:

1. Provide comprehensive programming which assessed and supported a child's process of learn → generalize → stabilize as it related to the functional skills prerequisite to successful participation in the least restrictive educational environment;

2. actively incorporate the actual process of integration and adaptation within the intervention process through direct involvement in the integration setting or through acting as a resource to more natural mediators within that setting;

3. facilitate consistency and continuity of care in order to maximize the child's potential through joint goal setting, assessment, and information-sharing with community placement personnel;

4. obtain information to assist in the definition of the child's short- and long-term educational needs by

analyzing generalization and functioning data from a more natural setting than that of the on-site component;

5. support and assist in the development of parental participation in community programs as long-term care-givers, child advocates, and agents of change;

6. identify the post-intervention needs of children and families and initiate referrals and/or contact with appropriate resources;

7. maintain knowledge of the programs and classrooms of the community, particularly in terms of the levels of functioning required for successful transition and integration; and

8. foster and maintain liaison with community programs, school boards, and agencies to facilitate joint development of programs to meet the needs of the client population.

The type and extent of involvement of a child's RCP treatment team in a community placement was dependent upon a number of factors. A consistent element was the team's participation in placement decisions and facilitation of parental involvement in the process. Actual services provided to the placements depended upon factors such as the community program's ability and willingness to incorporate RCP resources in the integration process, the transition needs of the child, and the resources and experience of the community program in meeting the needs of children with complex learning problems.

As well, the timing of the placement relative to the child's participation in the on-site component was a factor in determining the extensiveness of RCP staff involvement. With concurrent placements, two basic processes occurred. The first was consistent contact between the community teacher(s) and the child's treatment team regarding intervention goals, progress, and programming recommendations. The second, interactive with the first, was joint development of individualized programs to provide consistency and continuity for the child. A critical factor in this interaction was planning strategies applicable in both the community and on-site environments. These processes occurred through information-sharing by telephone, by communication books, by conferences, and through reciprocal observation visits. Parents were involved in these contacts and programming decisions through participation in the conferences, through involvement in the community placement as well as on-site, and through the written information in the communication books which the child carried between the placements.

Service provision through these processes and methods was also a potential for post-on-site placements. Where possible the child moved into these environments on a gradual basis and full-time placement was dependent upon a child's progress. However, in keeping with the school year, many children entered the post-on-site environment in September, and a gradual transition process was not possible due to the scheduling, programming, and logistical factors (such as geographical location and transportation services for the child) of school-board based programs.

As an alternative to the transition process, conferences regarding September placements were begun with parents and community placement personnel in the previous late spring. These information-sharing conferences focused on the following areas: the child's functional strengths and needs, the appropriate levels of expectations in all areas of functioning, effective teaching strategies, and identification of additional resources which might be required by the child and family following their transition to the community. Where possible the child's "new" teacher visited the on-site program to observe the child. As well, the child's treatment team provided written information to the receiving teacher regarding levels of functioning in school-related tasks and outlines of successful strategies utilized in meeting individual, special needs.

Through these processes, the RCP endeavored to attain the intervention goals of continuity of care, coordination of services, and consistency between the intervention and the integration environments. Additionally, RCP staff were available to community placements to provide the following follow-up services once full-time placement had been effected:

1. Observation and suggestions regarding general programming or management strategies;

2. individualized, specific treatment programs capable of implementation within the classroom setting;

3. formal reassessment;

4. referral to and facilitation of follow-up services or treatment by other A.C.H. programs or departments; and

5. coordinative support to facilitate parent and placement communication.

The frequency of contact and the duration of the follow-up involvement provided by the RCP beyond the transition process was determined by the availability of alternative resources. The primary goal of follow-up services was provision for continuity of care. Once this process had occurred to the extent possible, the child and family were discharged from the RCP and referred back to a DAT Clinic for long-term follow-up.

The community involvement component of the RCP was the primary responsibility of the teachers and child care workers on staff in conjunction with the coordinator. The child's treatment team members acted in roles ranging from occasional direct involvement in the community placement to occasional consultation with the teacher and/or child care worker actively involved in the placement. Variables involved in determining the resource-staff role included the child's primary needs, resources available in the setting, and the receptiveness of the setting to extensive follow-up.

These three components formed the basic structure for the daily operation of a multi-dimensional, interactive systems intervention process for a client population of preschool children with complex learning problems and their families. Within each interrelated component, a range of treatment techniques and intervention modes was possible. Each component was characterized by its flexibility to meet individual needs but individualization took place within the context of the development of skills and abilities to maximize potentials for integration and adaptation; that is, within an ecological, holistic, and lifespan perspective. The discussion of these components has described a model for implementation of this conceptualization of intervention. It has also outlined the ways in which individualization can and did occur within that framework. The operational procedures for the development and evaluation of individualized treatment plans are discussed in the following section.

Individualized Intervention Programs

The procedures for treatment team formation, treatment planning, prioritization of goals, and evaluation within the RCP were based on the Process Evaluation System's

(PES) structure for communication, coordination, and team decision-making. Figure 7 provides an outline of this process. As indicated in the figure, initial determination of a child and family's priority treatment needs occurred at Step 7, Program Registration.

At this point, the child and family treatment team members were also designated. While each treatment team was composed of a core of a teacher, child care worker, and the program coordinator, other team members were selected on the basis of the prioritization of treatment goals. For example, if upon review of the information obtained through Steps 1 through 6 of the PES the child presented as one whose gross and fine motor developments were not significantly interfering with learning, the physiotherapist and occupational therapist would not become active members of that treatment team. Their service to the child would occur through consultation with the child care worker and teacher regarding activities to incorporate within the classroom program to maintain a natural rate of development in these areas.

At the same time, if a child had significant delays in language and inappropriate behavior was judged to be interfering with learning, the speech therapist and the psychologist would be central members of the treatment team and intervention goals in these areas would be priorities in the on-site classroom component as well as in the parent and community components.

STEPS DIMENSIONS	No. 6 PROGRAM REGISTRATION	No. 7 TREATMENT PLANNING (initial and continuous)	No. 8 TREATMENT
Clinical Responsibility	PROGRAM COORDINATOR/TREATMENT TEAM	PROGRAM COORDINATOR/TREATMENT TEAM	PROGRAM COORDINATOR/TREATMENT TEAM
Objectives	To register child and family in a specific program. To form initial treatment team.	To form individual short- & long-term goals. To develop individual treatment strategies. To review progress and modify goals and strategies.	To attain individual treatment goals through implementation of individualized strategies.
Procedures	Establishment of working file containing data obtained in Steps 1 through 5. Review of information to define initial treatment team based on prioritized needs.	Team and parent review of information on a regular basis.	Dependent on treatment goals & strategies developed by individual treatment teams and the structure of the specific Program.
Information	Functioning Level: Staff, parent, and previous intervention programs' observation and report. Behavioral Description: Staff and parent observation and report. Parent Measure: Interview and screen process information. Standardized Testing: Data from previous assessments. Medical/Health: Health history. Demographic: Address, etc.; intervention and community placement history.	Functioning Level: Profile of needs and/or changes. Behavioral Description: Profile of needs and/or changes. Parent Measure: Parent involvement information. Standardized Testing: Comparative data; profile of needs and strengths. Medical/Health: Review of pertinent health factors. Demographic: Update of pertinent changes.	Functioning Level: Documentation of program and changes. Behavioral Description: Documentation of program and changes. Parent Measure: Documentation of program and changes. Standardized Testing: Reassessment as required. Medical/Health: Monitoring of health needs. Demographic: Update of pertinent changes.

Figure 7. Process Evaluation System Framework for treatment team formation and for treatment planning, implementation, and evaluation.

Prior to the child's actual on-site start date, treatment goals were set by each team member for the three components for either a one-month diagnostic period or for a three-month intervention interval. The one-month assessment interval was chosen by RCP staff when up-to-date, functional information was not available or when formal reassessment was judged to be necessary in order to establish specific treatment goals and strategies. These goals formed the individual treatment plan for the child and family and were documented in the child's working file.

Evaluation of treatment progress and modification of goals and strategies (Steps 8 and 9 of the PES) occurred through a three-tiered process of conferencing. These conferences were chaired by the program coordinator who held final clinical responsibility. The process of decision-making was a team process, however, with team consensus as a goal. The team process was guided by the objectives and programming priorities of the RCP. The basis for decision-making was discussion of the child and family's involvement in all three components of the RCP in terms of the six types of information from the "Information" dimension of the PES (as shown in Figure 7). The major role of the coordinator was to facilitate a synthesis of individual needs in specific areas with the programming priorities and the strategy of the intervention process.

In the first level of conferencing, called Cardex, each child was reviewed briefly with all staff present for a 15-minute period every two weeks. This review was structured into three sections: on-site, home, and community. Each staff member had the opportunity to share information, raise questions or concerns, and provide recommendations. The intent of Cardex was two-fold.

First, this form of conferencing was based on *information sharing* so that each staff member was up-to-date on current progress, changes, or items of information pertinent to the child, family, or community. For example, if a priority goal had been established by the child's individual treatment team to ignore rather than attend to a set of inappropriate behaviors, all staff would be made aware of this strategy to facilitate consistency and continuity within the treatment environment.

The second purpose of Cardex was to identify the need for a more *in-depth decision-making conference* to modify, evaluate, or develop a specific strategy for a particular area of the intervention program for the child or family. Issues could be raised by any member of the treatment team or be raised in response to the request of family or the community placement. This second level of conferencing, called "core team meetings," was attended by the individual treatment team members and was scheduled for approximately one hour on an as-needed basis.

The third level of conferencing, alluded to previously, was Major Review conferencing. Each client's intervention program was divided into 3-month treatment intervals. At the end of each interval, overall progress was formally reviewed and decisions made as to the priority goals for the next 3-month period. At this level of conferencing, general, long-term goals--such as transition into the community, identification of the child's optimal learning environment, and definition of short- and long-term child and family support needs--were a primary focus. Two conferences were scheduled for each child every three months following their on-site treatment start date.

The first, a treatment team conference, involved the summation of treatment progress and assessment results by each team member and the definition of recommendations for the next treatment interval in the three areas of child (on-site), family, and community. The second conference, held with the parents, was a reiteration of the first but provided the parents with a synthesis of the team's recommendations and an opportunity to participate in the final decision-making regarding their child's intervention program.

Cardex, core-team meetings, and Major Review conferences were the formal and regularly scheduled formats for the development and evaluation of individualized intervention programs. Information-sharing, planning, and identification of needs also occurred through informal and on-going communication between treatment-team members, between treatment-team members and parents, and with community placement personnel. The three tiers of conferencing provided for integration of all of the information within the context of preparation for transition to and adaptation within natural environments.

The team process utilized during conferencing and the documentation format of the PES provided a structure for viewing the child and family consistently within the ecological and holistic perspective. The regular inclusion of treatment goals to develop the skills and strategies to optimize potentials for integration and adaptation in natural environments maintained a focus on the child's overall abilities to develop rather than on specific symptoms or deficits. Finally, the attention to the interaction between the child's unique developmental contexts, present and future, formed the basis for individualization of intervention within a multi-dimensional process perspective.

Chapter 4

SUMMARY AND CONCLUSIONS

The intervention strategy and sample method of implementation discussed in this study have been presented within the context of current trends and issues in the field of preschool intervention in the 1980s. For the purpose of this discussion, two primary, interrelated trends were identified as guiding the development, implementation, and evaluation of intervention programs.

One primary trend identified was the changing view of children and their needs. Traditional models for intervention typically have viewed the child from an isolated deficit perspective and utilized a uni-dimensional (i.e., symptom-specific), corrective approach to preschool intervention. The weakness of this deficit model, particularly for preschool children with special learning needs, has been its lack of provision for generalization of treatment effects over time and into natural social and educational environments. The recognition of the limits of the model's effectiveness has led to an alternative view of the child within the optimizing perspective; that is, within an ecological, holistic, and lifespan developmental framework which views the total child in terms of *potentials* for *further* learning and development.

The optimization perspective implies provision of non-categorical and individualizing intervention which incorporates the following variables: the child's unique developmental process and profile in all areas of functioning; the child's socio-ecologies present and future; and the interaction between these multi-dimensional variables as they affect and are affected by intervention. Inclusion of these complex and dynamic processes as critical variables within effective intervention has, in turn, required a broader conceptualization of intervention than that provided by traditional models.

The second primary trend has been a shift away from a view of intervention as a short-term, predefined, specialist-dependent treatment of a specific deficit. The trend has been toward a view of intervention as a multi-dimensional interactive process which aims to maximize potentials for integration and adaptation in natural environments in the long term through non-categorical individualization. Involvement of natural agents of change in natural environments as part of the intervention process has become one of the distinguishing characteristics of this alternative perspective.

These two trends were identified as representative of significant and challenging changes within the field of preschool intervention, particularly, and within human services generally. They have had major impacts on the development, implementation, and evaluation of intervention programs. The primary impact has been the definition of a crucial and essential task for researchers, practitioners, and administrators within the field. The task is to develop intervention *strategies* which incorporate the multi-dimensional and interactive variables inherent within an individualized and comprehensive approach to children and their needs, but which also provide systematic and integrated frameworks for intervention having optimization as its stated goal. In other words, the task is to operationalize the changing view of the child and of the intervention process.

The intervention strategy developed at Preschool Services, Alberta Children's Hospital has been presented as an example of the type of approach to intervention which is currently required. While discussed in depth in Chapters 2 and 3, there are four general features of the strategy which recommend it as a viable means of responding to the trends and issues within the field.

The first feature of the strategy has been its utilization of a conceptual framework for intervention which was based on an ecological, holistic, and lifespan developmental view of children and their needs. While this is reflective of a primary trend within preschool intervention, the significance of this conceptual framework lay not so much in its existence as a philosophical framework for the Preschool Services programs; rather, its importance lay in its direct impact on the operational features of the programs, on the development, implementation, and evaluation of individual treatment plans, and on the procedural framework for client movement through the intervention process.

The Preschool Services strategy was to translate the optimizing view of the child and his or her needs into an interactive matrix of variable dimensions (see Figure 2, page 26). The primary dynamic underlying this framework was the relationship between the individual child's needs and progress, and the expectations of future, natural, educational, and social environments. The relationships among the variable dimensions of (1) *content*, the child's functioning levels across his development, and the expectations of future environments; (2) *structure*, a continuum of decreasingly structured learning environments; (3) *process*, the child's unique process of learn → generalize → stabilize; and (4) *environment*, the child's socio-ecologies present and future, were identified as the critical factors to be incorporated into an intervention process.

Identification of these variables provided a concrete framework for non-categorical, individualized intervention which had integration and adaptation as its goal. As significantly, it also led directly to major operational features of the Preschool Services intervention programs and to the development of the second essential element of the Preschool Services intervention strategy.

Implementation of a multi-dimensional process approach to intervention was seen as requiring a framework which would systematically integrate the four variable dimensions and their interaction in the development, implementation, and evaluation of individual treatment plans. The Preschool Services strategy was to develop a procedural framework which would provide the crucial link between the ecological, lifespan developmental and holistic view of the child and his/her needs, and the formation of individualized programs.

The Process Evaluation System provided this structured framework. Through definition of the major steps of client movement, and the objectives and procedures for each step, the PES identified the points at which individual plans would be formed and reviewed by team members in conjunction with parents. More importantly, it defined the types of information to be obtained, documented, and considered at each decision-making point. These included data relating to the child's functioning level and behavior in primary environments, the child's performance on standardized assessments, parental involvement and needs, health and medical factors, and demographic changes. The cumulative nature of the PES Information Dimension also enabled review and evaluation of progress and factors affecting progress over time.

Two characteristics of this strategy are significant. First, the process of team decision-making consistently occurred within a multi-dimensional, interactive matrix perspective as defined by systematic incorporation of the information areas described above. This feature was based in the conceptual framework of viewing the child within an ecological, holistic, and lifespan developmental perspective. The Preschool Services strategy was to translate this view into a client-centered approach to intervention; that is, to base development of individual plans on the client's actual needs and progress as they were identified within the multi-dimensional matrix of variables.

Secondly, the procedural guidelines of the PES provided a framework for the critical processes of communication, coordination, and continuity of care as the child and family moved through a complex and multi-faceted intervention process. Emphasis on these processes was viewed as a crucial component of operationalization of the optimizing perspective; without attention to and provision for these integrative processes, intervention becomes an isolated and discontinuous series of events from staff, child, and parent perspectives.

In summary, one of the major features of the Preschool Services intervention strategy was the consistent utilization of the optimization perspective in the formation and implementation of operational procedures, components, and processes.

A second primary feature of the strategy which recommends it as an applicable framework to attend to the trends and issues currently within the field, is that the strategy simply provided a framework for intervention. This framework did define the primary goal for the intervention process and provided operational features and procedures designed to attain the goal. However, the actual methods and techniques utilized within the approach by individual teams or staff members were not prepackaged nor predesignated.

The primary intent of the strategy was to meet individual needs in ways which effectively optimized potentials for future development. The inherent flexibility within the framework reflected a non-categorical approach to intervention and a recognition of the differences among individual children's needs and rates of progress. As well, it attended to the possibility that differing intervention techniques have differing impacts on individual children and families.

The necessity of providing a strategy within which a range of techniques could be utilized was a critical assumption and feature of the Preschool Services approach to intervention. It not only reflected a recognition of the variations among children and families; it also reflected a recognition of the variations among natural social and community educational environments. Just as a single method for developing language skills is not always effective, a single method for integration and adaptation cannot always be appropriate for all situations. Similarly, full integration within natural educational environments may not be the most enabling or optimizing for all children. The intervention framework of the strategy not only permitted selection of treatment techniques in accordance with a child's needs and progress; it also permitted formation of *realistic* integration and adaptation objectives for individual children based on specific educational environments in the community.

The primary task within the field of preschool intervention was described as the development of strategies for implementation of the optimizing perspective. While the basic function of intervention strategies can be defined as provision of service to meet the needs of preschool children and their families, two other critical functions are research and program development. These functions become particularly essential in view of the transitions and advancements within the field itself. A third major feature of the Preschool Services intervention strategy was the integration of these three functions within a client-centered, service delivery framework.

As discussed in depth in Chapter 2, the Process

Evaluation System was developed primarily to incorporate the conceptual framework of the strategy into the development of individualized intervention plans. In addition to meeting this need, the PES documentation format provided an extensive and coordinated method of obtaining data which could be analysed from program development or research perspectives.

The population served by Preschool Services was essentially a heterogeneous one. As well, the complexity of needs of the children and families referred to the program increased as resources and programs developed within the community. The Information Dimension of the PES provided a structure for documentation of the following variables: pre-intervention history, progress through the intervention process and required resources, demographic and health factors, standardized assessment results, functioning level profiles, and the level of post-intervention integration. The utilization of a consistent and systematic format for documentation of these variables enabled identification of common characteristics and trends within the total population and of sub-groups within or across the programs. This procedure, in turn, facilitated analysis to determine requirements for correlative changes and/or developments in intervention structures, components, or resources, to meet the changing needs of the client population.

The data base provided by the Information Dimension also had the potential to be utilized for evaluation or research studies involving the above variables. The breadth of the regular data base enabled consideration of the correlation among variables during intervention. The format for follow-up and longitudinal studies was in place as well. The forms and areas of the Information Dimension could be readily modified to incorporate post-intervention data. Furthermore, the actual structure of the documentation format was such that additional measures (e.g., surveys, inventories, standardized assessments) could be added to and supported by the regular process of data collection should they be required for specific projects.

One of the pertinent characteristics of this feature was the synthesis of the functions of intervention, program development, and research within a system which was client-centered. In other words, the latter two functions, which are of importance to administrators and clinicians, could occur with a minimum of disruption to the clients' programs and progress and to team planning and documentation procedures.

The fourth feature of the Preschool Services approach to intervention is the potential applicability of the strategy to a broad range of client populations and service needs. In essence, the strategy was based upon two dynamic processes, that is (1) the interaction between multi-dimensional variables and clients' needs and progress, and (2) the movement of clients through the intervention process. The structural formats which were developed to respond to these processes and which formed the conceptual and service delivery frameworks for intervention were the interactive matrix of variable dimensions and the procedural guidelines of the PES. In this study, these formats were discussed in terms of the integration and adaptation needs of preschool children with complex learning needs. However, the formats were not age-, time-, disability-, nor location-specific.

Rather, the formats of the strategy provided a means of attending to the variables interacting with functioning and change, and to the processes of communication, coordination, and continuity of care from a non-categorical, client-centered perspective. Additionally, they included continuums of needs, of intensity of programming, and of rates of change. Due to the general, rather than specific approach and the process, rather than event, orientation, the formats are seen as being generalizable to any type of intervention programming which has optimization as its goal and which views clients and their needs within ecological, holistic, and lifespan developmental perspectives.

In summary, the intervention strategy which was developed at Preschool Services was characterized by four primary features:

1. Consistent utilization of the optimization

perspective in the formation and implementation of operational procedures, components, and processes;

2. provision of an intervention framework within which a range of methods and techniques could be employed to meet clients' needs;

3. integration of the intervention functions of service provision, program development, and research within a single, client-centered system; and

4. applicability of the strategy to a range of needs, resource bases, and environments.

As discussed previously, the strategy and its features evolved in response to two primary trends: the view of children and their needs within holistic, ecological, and lifespan developmental perspectives, and the view of intervention as a multi-dimensional process. In other words, these features evolved through the process of operationalization of the optimizing perspective. As such, these features are seen as key elements to be considered in the design, implementation, and evaluation of intervention programs in the 1980s. Their inclusion in the development of intervention strategies is seen as attending to the following trends and issues:

1. The provision of non-categorical, individualized intervention which aims to maximize potentials for future development;

2. the development and evaluation of a process

approach to the generalization of and maintenance of treatment gains;

3. the utilization of non-specialist-dependent and non-symptom-specific approaches to change and adaptation; and

4. the design of new, systematic, and integrated frameworks for service delivery, program development, and research which correspond with the optimizing perspective of intervention.

As with the creation of new forms and approaches in any situation, the development and implementation of the strategy raised additional issues and factors, among which was the primary, fundamental importance of a shared frame of reference or common perspective among staff. The operationalization of a multi-dimensional process approach to intervention required reorientation for many staff members who had been trained with specialist-dependent, symptom-specific, and curative perspectives. A secondary implication of this difference was the unfamiliarity with a team-consensus format for the prioritization of treatment goals and the focus on the *creation* of individualized treatment programs rather than the utilization of preset packages and prescriptions. Finally, intervening through the triadic model was a new experience for many and required a readjustment in their own evaluation of their impact and effectiveness.

A continuous process within Preschool Services was provision of team-building and staff-development workshops. Systematic orientation for new staff members, formal and informal focus on the development of communication, consultation, and decision-making skills, and total staff participation in program development planning were methods utilized to develop and maintain a shared perspective among the staff. Understanding of and commitment to the conceptual framework and the team process by staff members was a critical factor in the provision of effective, integrated intervention.

A second dynamic influence on the process of implementation of the strategy was the inherent discontinuity between the intervention environments and the community educational environments. The essential discontinuity lay in a difference in perspective.

Community educational environments (particularly formal systems such as school boards) were essentially homogeneous groupings by age and the curricula were predetermined for all children. While one of the primary goals of the intervention strategy was to prepare children for successful transition into these types of settings, a basic dichotomy existed between the individualization of programming which occurred within the intervention process and that which could occur within natural educational environments.

The community involvement or outreach component of the Preschool Services programs was, therefore, a significant factor in the successful and smooth movement of children and families into educational environments. Extensive liaison and interaction with community-based programs was seen as a priority to strengthen the congruity between the intervention process and future environments. On-going follow-up by Preschool Services staff was also seen as essential to facilitate continuity for the child and family and to minimize the disruption to rate of progress which could occur as a function of changing environments.

While these activities facilitated determination of realistic programming goals and content for individual children's programs, synchronization of perspectives and of individualization formats was not always possible. As a consequence, measurement of the effectiveness of the intervention strategy as an optimizing process was, at one level, complicated by a change in orientation toward and definition of optimization.

An example of this factor would occur if a child developed group and readiness skills at a level appropriate for participation in a regular Grade I program, but was unable to function successfully in a large-group situation throughout an entire day, thus precluding full-time placement in that setting. Due to the minimal number of transitional environments or partial placements within this (hypothetical) school system, the child would be placed in a segregated, special-education classroom. The question raised by this example is whether or not the intervention process was effective in providing optimizing intervention for this child. This question and the foregoing discussion of the impact of staff and community perspectives on the intervention process suggest that the re-conceptualization of intervention discussed in Chapter 1 needs to be taken a step further.

Throughout this study, emphasis has been placed on the development of intervention strategies which incorporate the complex, multi-dimensional, and interactive variables inherent within each child's unique developmental process and socio-ecology, as well as the equally complex and dynamic variables within future natural environments. The experience of the Preschool Services programs indicates that the ecological, open, and interactive-systems perspective needs to be extended beyond the client to include the staff and community variables which affect and are affected by the intervention strategy.

A major point of this study is that intervention strategies can be developed which are applicable to a broad range of populations, needs, and resource bases. However, in keeping with the movement away from utilization of preset models and treatment packages, a second point should be noted. The *implementation* of a strategy may be affected by the following dynamic variables: the perspectives, energy, and commitment of the staff members, the levels of understanding and valuing of the process of optimization by supporting administrative structures and the community, and the strategy's own developmental pattern as it interacts with the client population and the preceding variables.

There are three implications arising from this point. First, interaction with the community in which the intervention program operates and continual attention to staff development become essential processes within the service delivery system. Secondly, while a single strategy may emerge as an effective format for all types of intervention, each intervention program will continue to have distinctive operational features and components; that is, implementation features will be reflective of the ecology surrounding the intervention process rather than being predesignated and consistent across and within client populations and geographical locations. Finally, the inclusion of the above variables in the implementation and evaluation of intervention programs necessitates further expansion of evaluative criteria, models, and techniques.

These implications point to directions for further consideration and study within the field of human services. One of the major themes throughout this study has been the dynamic complexity inherent within the development, implementation, and evaluation of intervention programs aiming to maximize potentials for human development. It seems fitting, therefore, that the study conclude with the suggestion that future directions be diverse, dynamic, and multi-dimensional, but also inextricably interrelated with the intervention process of optimization of development.

REFERENCES CITED

Beveridge, M., & Brinker, R. (1980). An ecological-developmental approach to communication in retarded children. In F. M. Jones (Ed.), *Language disability in children* (pp. 45-67). Lancaster, PA: MTP Press.

Bricker, D., & Casuso, V. (1979). Family involvement: A critical component of early intervention. *Exceptional Children, 46*(2), 108-116.

Bronfenbrenner, U. (1974, November). Is early intervention effective? *Day Care and Early Education*, pp. 14, 15, 16, 17, 18, 44.

Enzer, N. B., Abid, N., & Benaderet, L. B. (1978). Treatment of preschool children: An overview. In N. B. Enzer, & K. W. Goin (Eds.), *Social and emotional development: The preschooler* (pp. 97-114). New York: Walker & Co.

Fenichel, C. (1974). Special education as the basic therapeutic tool in the treatment of severely disturbed children. *Journal of Autism and Childhood Schizophrenia, 4*(2), 177-186.

Gallagher, J. J., Ramey, C. T., Haskins, R., & Finkelstein, N. W. (1976). Use of longitudinal research in the study of child development. In T. J. Tjossem (Ed.), *Intervention strategies for high risk infants and young children* (pp. 161-184). Baltimore, MD: University Park Press.

Graham, L. (1976). Language programming and intervention. In L. L. Loyd (Ed.), *Communication, assessment and intervention strategies* (pp. 371-422). Baltimore, MD: University Park Press.

Gray, S. W., & Wandersman, L. P. (1980). The methodology of home-based intervention studies: Problems and promising strategies. *Child Development, 51*, 993-1009.

Guess, D., Keogh, W., & Sailor, W. (1978). Generalization of speech and language behavior. In R. L. Schiefelbusch (Ed.), *Bases of language intervention* (pp. 376-410). Baltimore, MD: University Park Press.

Halpern, W. I., & Kissel, S. (1976). *Human resources for troubled children.* New York: John Wiley & Sons.

Hart, B., & Rogers-Warren, A. (1978). A milieu approach to teaching language. In R. L. Schiefelbusch (Ed.), *Language intervention strategies* (pp. 212-246). Baltimore, MD: University Park Press.

Heifetz, L. J. (1977). Behavioral training for parents of retarded children: Alternative formats based on instructional manuals. *American Journal of Mental Deficiency, 82*, 194-203.

Heifetz, L. J. (1980). From consumer to middleman: Emerging roles for parents in the network of services for retarded children. In R. R. Abidin (Ed.), *Parent Education and intervention handbook* (pp. 349-384). Springfield, IL: Thomas.

Hemsley, R., Howlin, P., Berger, M., Hersov, L., Holbrook, D., Rutter, M., & Yule, W. (1978). Treating autistic children in a family context. In M. Rutter & E. Schopler (Eds.), *Autism* (pp. 376-408). New York: Plenum Press.

Kendall, D. (1980). Developmental processes and educational programs for exceptional children. In G. M. Kysela (Ed.), *The Exceptional Child in Canadian Education* (pp. 13-41). Canadian Society for the Study of Education, 7th Yearbook.

Korchin, S. J. (1976). *Modern clinical psychology.* New York: Basic Books.

Lovaas, O. I. (1978). Parents as therapists. In M. Rutter & E. Schopler (Eds.), *Autism* (pp. 351-375). New York: Plenum Press.

Lovaas, O. I., Koegel, R., Simmons, J. Q., & Long, J. S. (1973). Some generalization and follow-up measures on autistic children in behavior therapy. *Journal of Applied Behavior Analysis, 6*(1), 131-166.

MacDonald, J. D. (1980). A communication model for language intervention with severely language delayed children. Unpublished manuscript. (Ohio State University)

McLean, J. E., & Snyder-McLean, L. K. (1978). *A transactional approach to early language training.* Columbus, OH: Merrill.

Mittler, P. (Ed.). (1971). *The psychological assessment of mental and physical handicaps.* London: Methuen.

Price, R. H. (1978). *Abnormal behavior: Perspectives in conflict* (2nd ed.). New York: Holt, Rinehart & Winston.

Ruder, K. (1978). Planning and programming for language intervention. In R. L. Schiefelbusch (Ed.), *Bases of language intervention* (pp. 320-368). Baltimore, MD: University Park Press.

Sanders, D. A. (1976). A model for communication. In L. L. Lloyd (Ed.), *Communication, assessment, and intervention strategies* (pp. 1-32). Baltimore, MD: University Park Press.

Sailor, W., Wilcox, B., & Brown, L. (1980). *Methods of instruction for severely handicapped students.* Baltimore, MD: Paul Brookes.

Schaefer, E. S. (1976). Scope and focus of research relevant to intervention: A socioecological perspective. In T. D. Tjossem (Ed.), *Intervention strategies for high risk infants and young children* (pp. 237-247). Baltimore, MD: University Park Press.

Schiefelbusch, R. L. (Ed.). (1978a). *Bases of language intervention.* Baltimore, MD: University Park Press.

Schiefelbusch, R. L. (Ed.). (1978b). *Language intervention strategies.* Baltimore, MD: University Park Press.

Schopler, E. (1978). Changing parental involvement in behavioral treatment. In M. Rutter & E. Schopler (Eds.), *Autism* (pp. 418-435). New York: Plenum Press.

Schopler, E., Reichler, R. J., & Lansing, M. (1980). *Individualized assessment and treatment for autistic and developmentally disabled children* (Vol. II). Baltimore, MD: University Park Press.

Scott, M. (1980). Ecological theory and methods for research in special education. *The Journal of Special Education, 14*(3), 279-294.

Tharp, R. G., & Wetzel, R. J. (1969). *Behavior modification in the natural environment.* New York: Academic Press.

Thomas, E., & Marshall, M. (1977). Clinical evaluation and coordination of services: An ecological model. *Exceptional Children, 44*, 6-15.

Vincent, L. J., Salisbury, C., Walter, G., Brown, P., Gruenewald, L. J., & Powers, M. (1980). Program evaluation and curriculum development in early childhood/special education: Criteria of the next environment. In W. Sailor, B. Wilcox, & L. Brown (Eds.), *Methods of instruction for severely handicapped students* (pp. 303-328). Baltimore, MD: Paul Brookes.

White, O. R. (1980). Adaptive performance objectives: Form versus function. In W. Sailor, B. Wilcox, & L. Brown (Eds.), *Methods of instruction for severely handicapped students* (pp. 47-70). Baltimore, MD: Paul Brookes.

Whitehead, A. N. (1968). *Modes of thought.* New York: Free Press. (Original work published 1938)

Willems, E. P. (1974). Behavioral technology and behavioral ecology. Reprinted in A. Rogers-Warren & S. F. Warren (1976) (Eds.), *Ecological perspectives in behavioral analysis* (pp. 9-31). Baltimore, MD: University Park Press.

Zigler, E., & Seitz, V. (1980). Early childhood intervention programs: A re-analysis. *School Psychology Review, 9*(4), 354-368.

Zigler, E., & Trickett, P. K. (1978, September). IQ, social competence, and evaluation of early childhood intervention programs. *American Psychologist*, pp. 789-798.